

SCIENCE FICTION Quarterly

MAY

25¢

132
PAGES

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SECRET
AGENT**

by H. B. Fyfe

**WHEN IN
DOUBT--
MUTATE!**

by E. Hoffmann

Price

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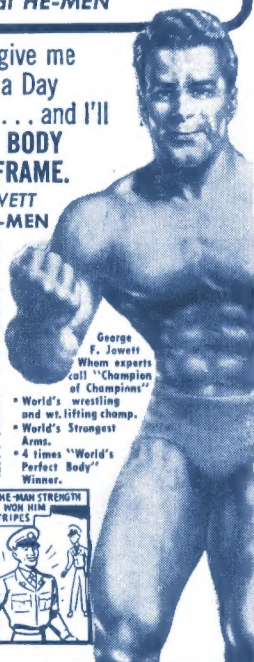
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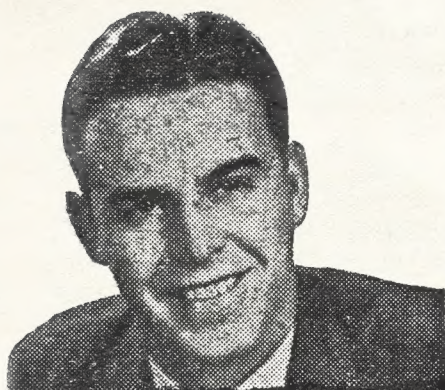
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Volume
1
Number
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SCIENCE

FICTION *Quarterly*

May,
1952

132 PAGES OF NEW STORIES — NO REPRINTS!

★ ★ *Feature Novel* ★ ★

THE SHINING CITY Rena M. Vale 10

Thor wonders if his loyalty to the city isn't a worse betrayal than his son's treason. But must there be war of extermination between the city and others?



Two Unusual Novelets

WHEN IN DOUBT, MUTATE! E. Hoffmann Price 54
Oscar isn't born human; he's made human. And he doesn't like it!

EXTRA-SECRET AGENT H. B. Fyfe 78
Laril doesn't know his mission, but there's another agent operating with him who is even more secret!

Short Stories

THE LUCKIEST MAN ALIVE! William Morrison 98
—obviously, will be the one who's chosen "Mister Earth"!

WE, THE PEOPLE... Ward Moore 101
Any resemblances in this fable shouldn't be too surprising.

Departments And Features

IT SAYS HERE (*Editorial comment and Letters*) 6

SCIENCE IN SCIENCE FICTION No. 4 James Blish 49
Wherein we look into "The psychological story".

READIN' AND WRITHIN' (*Book Review Dept.*) Robert W. Lowndes 77

THE BLACK MAGIC OF YESTERDAY (*Article*) Eugene W. Nelson 106

THE RECKONING and READERS' PREFERENCE COUPON 130

Cover by Milton Lueros, suggested by "The Shining City"

Interior illustrations by Lueros and Poulton

ROBERT W. LOWNDES, Editor

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The Actual Policy Will Come to You
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The Service Life Insurance Company
Hospital Department T-83, Omaha 2, Nebraska
Please rush the new Family Hospital Protection
Plan Policy to me on 10 days Free Inspection.
I understand that I am under no obligation.

Name.....

Address.....

City or Town.....State.....

SERVICE LIFE INSURANCE COMPANY

Assets of \$13,188,604.16 as of January 1, 1951
Hospital Department T-83, Omaha 2, Nebraska





As I Was Saying...

SOME MONTHS ago, a reader expressed the opinion that scientists do not seem to agree about a number of important matters, implying that since a great deal of alleged confusion and contradiction can be found, we cannot be too sanguine about what "science says" on this, that, and the other.

It leads to a consideration of values in "scientific practice". Are there any general standards? If so, what are they?

Anatol Rapoport deals with this in an article entitled "How Relative Are Values?", which appeared in the Spring 1951 issue of *ETC.*, and I'd like to present that list—it's a short one—for discussion. It goes like this:

1. Truth is preferred to falsehood.
2. Economy is preferred to dissipation of effort.
3. Free independent thought is preferred to acceptance of authority.
4. Agreement is preferred to disagreement.
5. Cooperation is preferred to competition.

Let's consider these in order, now; what meaning can we place on these statements, and, more important, what *don't* they mean?

1. *Truth is preferred to falsehood.* In many spheres of activity, particularly in religion and politics, such a statement would reduce to: "What I say is true, and what you say is false."

That meaning does not apply in the standards for scientific practice, even though it has obtained in specific cases among individuals, and is likely to happen at any time, when we remember that "scientists" are first of all human beings, with (alas!) tendencies to the same failings as "non-scientists". In scientific standards only that is "true" which can be demonstrated, *in practice, not merely in words*, by any person who follows the procedures prescribed. In other words, if a scientist says, "this is 'true', because every time I did so and so, thus and thus resulted," then any time *anyone else, regardless of his or her opinions and beliefs*, does the same "so and so" (repeats the pro-

(turn to page 8)

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cedure under similar conditions, etc.) the "thus and thus" will follow.

If the "thus and thus" follows only some of the time, or even most of the time, then we do not have "truth"—but we do have a situation which may lead to "truth".

And while scientific "truth" usually remains, interpretations of "truth" may vary from time to time. I mean, while the "thus and thus" followed every time from the "so and so", the *reasons given* for the phenomenon may have been faulty. Thus *theory* is in a constant state of flux, and considerable disagreement here can usually be regarded as a healthy sign—for if "truth" is wrongly interpreted, one "truth" may seem to lead to a dead end, where a more nearly correct, or entirely correct interpretation can lead to further "truths".

2. *Economy is preferred to dissipation of effort.* "Truth" can be defined in term of the *results* of procedures. It often happens that several procedures can give a similar result, or several interpretations of a result will lead to similar conclusions. In such cases, the *simpler* procedure and/or theory will be preferred. Certain steps, in one of two procedures with similar result, will turn out to be unnecessary for the result; these are eliminated. Certain tenets and complications in one theory will turn out to be irrelevant, since another theory, without them, leads to the same conclusion.

3. *Free independent thought is preferred to acceptance of authority.* In practice this value frequently suffers, but it remains a value and a goal, nonetheless, and the most "progress" in science has ensued when the rule was respected. It means that nothing, *but nothing*, in the entire range of "science" is to be considered as sacred and not to be questioned. It also means that theories, methods, procedures, questions, etc., take precedence over personalities. Not who says it but what is said, is the important thing. Since we're human, there's no escaping the fact that a statement from Dr. Ein-

stein will carry more weight, in itself, than a similar statement from Joe Glop; but when this value of independent thought is observed, Glop's remarks are considered with no less rigour than Einstein's. (It cannot be denied, of course, that a man who has the reputation of competence in his field will often be given earlier hearing than an unknown, but the unknown has a chance nonetheless. When scientific work is entangled with non-scientific matters, such as politics, religion, etc., the value of independent thought often gets mauled, to say the least.)

4. *Agreement is preferred to disagreement.* Again, this is not a personality-matter. The object of science remains the discovery of and manipulation of "truth" to (seeming) advantage for human beings; therefore "agreement" (duplication of results achieved from procedures) is necessary.

5. *Cooperation is preferred to competition.* Scientific work is, by necessity, a collective activity, and "secrets", however necessary for political reasons, hamper it. In our own times, the many separate fields of scientific endeavour overlap to such an extent that many of the one-time classifications of the fields have become clumsy. We know that no "truth" exists by itself, isolated from other "truths"; correlation and cooperation are vital. And when two individuals working in the same "field", and on the same problem, are denied access to each other's findings, the results may often be unfortunate. (In the field of nuclear physics, they may be deadly, in more ways than one!)

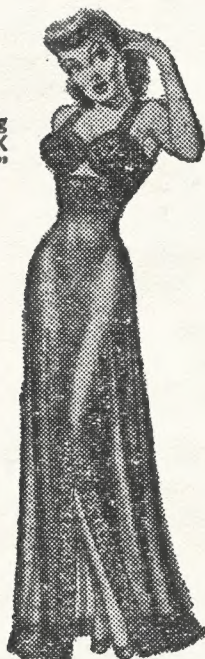
To reiterate, scientists are human beings, first of all, and any scientist may, at times, violate one or more of these values. But when he or she is "behaving like a scientist" they are observed faithfully.

A READER writes, "I've thought of writing in much more often
[Turn To Page 113]



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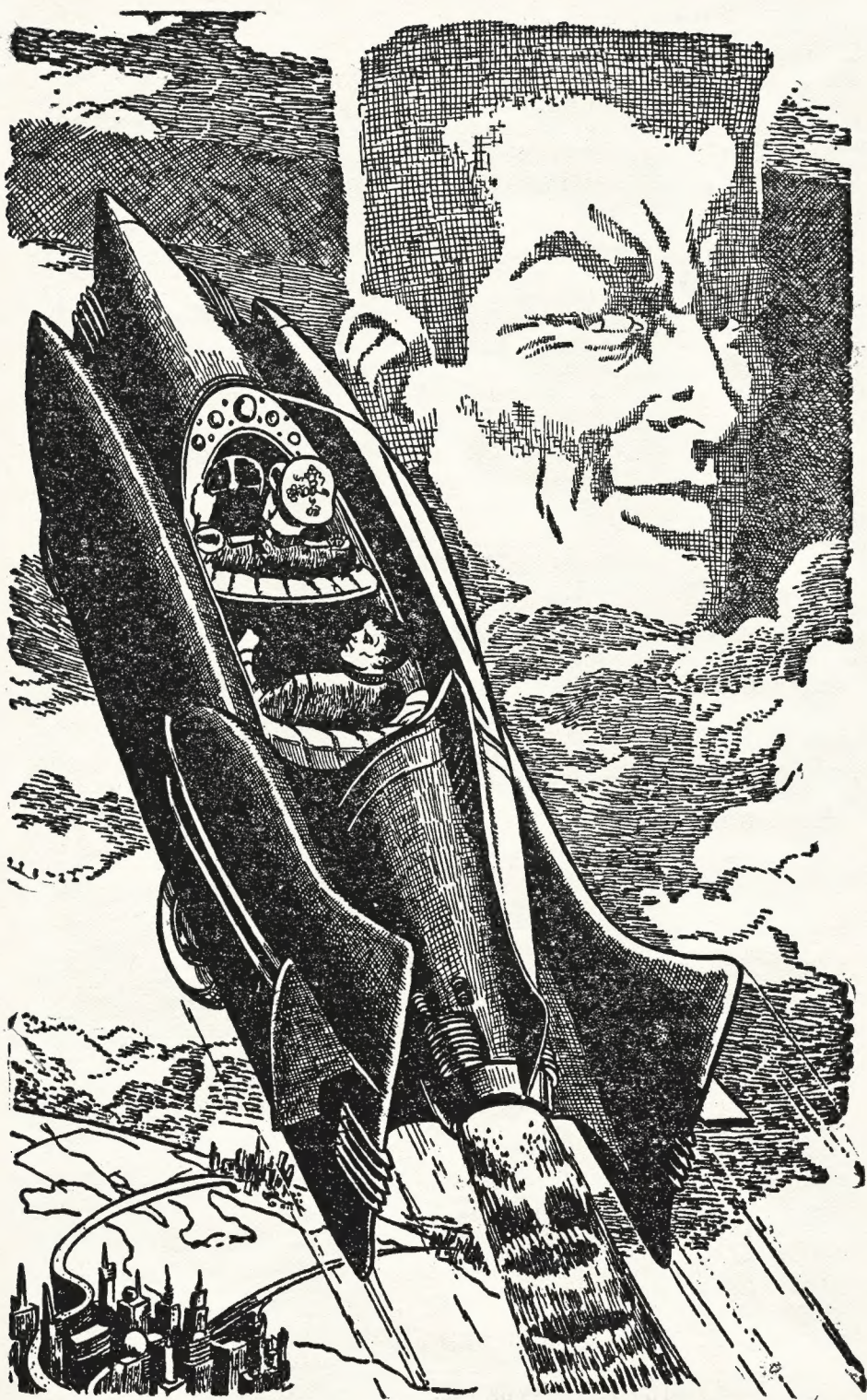
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As the car shot upward, Thor fancied he could see Marshal Zachary's smile following them...

THE SHINING CITY

By Rena M. Vale

Heavy in Thor Larsen's heart was the suspicion that his son, Leonard was a traitor to the city — but heavier still was the feeling that Thor himself had betrayed something greater!



“L EONARD is gone.” Thor Larsen did not turn from the telescreen, on which a depiction of a javelin-throwing contest between two teams of Northerners was in progress in a field near the Argonne Pit. The challenging team was from Superior City, and Thor strained to see if any members were familiar to him. Then he noticed the reflected image of Anisse in the corner of the screen, and the Northerners were forgotten. It was the year all women of official rank had been ordered to wear red, and her costume was the same shade as that of the flames that stained the sky above the Pit—women called it “Exciting Red.” Thor found himself reacting in the manner the Social Engineers had planned, though he hesitated a few centi-seconds before acknowledging the presence of the woman. She tossed

her head in impatience, and the artificial yellow of her hair swirled above the flame of her dress as though her image-fire had been freshly fed. It was then that Thor became aware of the fact that she had said something about his son.

“Leonard?” he asked without turning.

The yellow cascade quieted as she stepped into the room. “Leonard is not in his quarters; his belongings are gone.” She flung the words like a handful of hailstones at the hunched figure on the bench.

Thor cut the control of the screen and turned to face the woman. He was a large man of fifty or more, and he moved with sure deliberation. “Why should that alarm you, my cherished one?” He spoke with soothing tenderness. “Perhaps there is some reason why he should be in Paris ahead of us.”

Anisse strode quickly across the room and seated herself on the bench beside Thor. It was the only seat in the room; in fact, the bench was the only piece of furniture in the room, though the walls were lined with com-

Feature Novel of Tomorrow

munication cabinets, control boards, screens, charts and other apparatus necessary for the executive work of the President of the City Board. She tilted her face up to Thor's and forced a smile. "I thought it best that you hear it from me before the Eye Squad issues a call. I'm afraid—"

Thor embraced the woman clumsily. "There is nothing to fear, my little Anisse, my lovely Anisse. Leonard is capable of looking after himself."

She drew away from him, a look of mingled perplexity and cruelty written in the wrinkles around her eyes and mouth. She was a small, spare woman, about forty, with lingering traces of a beauty that had been hard and glittering. However, the adoration in Thor's face showed that he saw in her only the reflection of his desire. "They were here looking for him."

Thor waved her statement aside. "Leonard has an important part in the celebration tomorrow; he is to receive the sceptre of Honored Scientist for his accomplishments in research on ancient chemical processes. Gnurin himself recommended it to the Board."

"Leonard cared nothing about the sceptre."

"Cared nothing about the sceptre!" Thor stared at his mate in astonishment. "Why, he will be the only scientist born outside the Band ever to receive it—the only one from the Shining City to get it tomorrow! It's an honor second only to the one they will bestow on me! Whatever gave you the impression he doesn't care about it?"

"Something he said yesterday."

"Oh, Leonard is a little obscure at times—he's been so much engrossed in matters of the past. You know you've never understood the boy."

"I couldn't fail to understand him this time. I met him in the corridor when I was on my way to the reconditioning salon, and just to be pleasant I asked him if he wasn't excited

about the Paris celebration. He said, in that way he has of tipping his head and looking way off into another time, 'Celebrations and honors are falsifications for future history.'"

THOR LAUGHED, an easy, full laugh. "He was only trying to hide his eagerness; he'll be there tomorrow, and excited as any of us. There has undoubtedly been a change in his travel plans; so many are going from the Shining City, it's easy to understand how confusion can develop. It's to be expected." He rose and paced the great width of the room; as he spoke, his tone deepened and the blue of his eyes became darker with intensity. "You must realize, my dearest one, that ours is a time of flux—everything is changing with great rapidity. Why, twenty years ago—when I gave my allegiance to the world of science—Sun Conversion was not even used for travel. A heavy load of fuel was needed to propel a sky car from one city of the Band to another. Tomorrow we will go forth from the Shining City in a car that is propelled through space by an envelope of magnetic fog, and in two turns of the telechron we'll be in Paris!" He looked at the woman as though surprised to find an audience of only one. The realization brought him back to the subject they had been discussing. "Probably Leonard is already there."

"Your son is not in Paris, Thor of the genetic rating Two-Two."

The voice came from the tri-dimensional communication cabinet, and Thor whirled to face the smile of Doctor Gnurin, One-One-Seven. The head appeared to be little more than a skull.

"Gnurin!" Thor exclaimed. "I didn't hear your signal!"

"I bypassed the signal in order to have an informal chat with you. I believe you will agree with me that it is better for our conversation not to be recorded on an Eye Squad spool."

"What is this about Leonard?" The muscles of Thor's face tightened, and

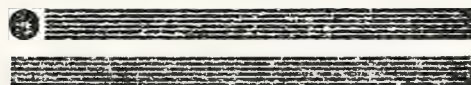
it was an expressionless mask he presented to Gnurin.

"A little irregularity."

"Perhaps Marshal Zachary changed his transportation plans. Our official skycar will be fairly well filled—all the Board members are taking their mates, you know, and there are the heads of delegations..."

Gnurin cut into Thor's speech. "Marshal Zachary is with me. He changed no plans."

"Then perhaps—" Thor groped for words. He looked helplessly at Anisse, but she supplied nothing.



"COLLABORATOR" and "quisling" are terms which came into common usage within the last decade, but the behaviour they describe is probably as old as human history.

Usually, one thinks of the clever turncoat when these terms are applied—the man or woman ready to switch sides at moment's notice, for tangible profit.

But there are other kinds of collaborators, basically honest and well-meaning people who believe in a decision to accept what their fellows are struggling against, sometimes with reservations.

This story reached us out of the mails, from a name unknown. Frankly, I think it is one of the finest I've read in a number of years.

RWL



The skull continued speaking. "Leonard One-Two-Two was to have reported to me at the hour of thirteen today, and when he had not appeared by another turn of the telechron I called on the Eye Squad to investigate. He was not in his laboratory; he was not in his quarters. In fact, he was not in the City. The Eye Squad captain reported that he had taken all the charts on sulphuric acid as well

as many other secret documents from the laboratory files last night. This morning—and this is even more grave—he requested a hovering car from the transportation office; he has used it frequently on journeys to excavations, and in the present confusion the transportation office failed to check his authority. It appears that his plan was well thought out."

"Oh, I'm sure—" Thor fumbled, and, catching a look from Gnurin, changed his approach. "How did he set the gear lock?"

"He didn't use the gear lock, which means he didn't set out for a locked destination. All that is known is that he went in a westerly direction."

"Westerly?" Thor repeated in an effort to gather his faculties.

"The Argonne Pit!" Anisse exclaimed.

Thor shot a reproving glance at her. "I can't regard this as serious—a research problem that absorbed him, made him careless about formalities..."

"Perhaps we had better discuss this in private, Gnurin."

Anisse rose from the bench and swayed toward the entrance, her short belted garment cupping to the curves of her body. "I must prepare for my stay in Paris."

"There may be a change in plans." Thor's eyes followed her hungrily.

"If the official skycar goes to Paris, I go; it has been overlong since I visited my home, and I'm looking forward to it." The door slid shut behind her.

"But," Thor stammered, speaking to her retreating figure, "if I don't go to Paris there'll be no celebration!"

Gnurin laughed, a harsh and grating sound that was almost metallic. "The ceremonies in Paris are being held for the purpose of celebrating the success of the experimental Unvalator and Invalator. That you employed those devices in constructing the City doesn't necessarily mean the honors go to you! Great scientists of the Band

do not confuse deeds and personalities, Thor."

"I understand, Gnurin. It was just that I thought it might take a little time to change program plans. However, if they can be changed as easily as you imply, the celebration can proceed without Leonard, if need be."

"It will." A smile that was like the gash of a saber cut across the face in the cabinet. "However, there are matters for the Board to act upon."

"I will come at once to your laboratory." Thor closed the control of the cabinet and watched Doctor Gnurin's features fade.



HE PAUSED at the door to Anisse's room but did not enter. She had never liked Leonard, and Thor assumed it was because his son represented a link to the life she had not shared with him. For that reason he had not consulted her on matters pertaining to Leonard. As his mate she had counselled him on every other decision he had made for the past fifteen years; often she had prepared the speeches he had made in meetings. He was only a superintendent of construction—a mere overseer of denizen laborers—when he met her in a relaxing parlor in Paris, where he had gone to attend a conference on scientific city construction. She poured wine for him and told him he could be "ruler of the world"; he had returned to the Shining City with a new mate and a new ambition. Anisse had pushed him upward to the highest position in the Shining City, that of President of the City Board. *Without her*—He could not bring himself to finish the thought, and his hand trembled as he passed it through the beam that controlled the outer door to his apartment.

It was spring and he felt the need for outdoor air. He took a sun mask from a wall niche beside his door and swung it in his hand as he strode down the long, gleaming corridor. Glasteel. Proudly he thumped the wall. Every



building in the Shining City was constructed throughout of glasteel, a product he had helped to develop. Doctor Gnurin One-One-Seven spoke of the silicones of the ancients, of polymerization, isomerization and ion exchange; but Thor, the builder, made no effort to understand these technicalities. He asked only for a material that could be molded to shape, that had high tensile strength, resiliency, and, for the purpose of Sun Conversion, high reflective qualities. Glasteel was the answer, and Thor had driven the swarms of denizens in his building crews to construct a city of the gleaming alloy. All other cities in the scientific Band had adopted it, and two continents were now dotted with shimmering citadels. The Siberian Outpost, Moscow, Prague, Paris, London, New York, Cleveland, Chicago, Kansas City and Los Angeles—all were phoenix-cities which had risen from the ashes of a ruined world and banded together to share their scientific knowledge. Now they were all monuments to Thor Larsen, the builder, who had been born a Northerner. Tomorrow in Paris—But first he must clear up the difficulty about his son.

Thor slipped the sun mask over his face and emerged into the dazzling brilliance of the Boulevard. The rays of the sun were multiplied a thousand fold by the reflective surfaces of the hundred story buildings that lined the west side of the Boulevard; they splintered upward from the Boulevard floor into the graduated discs of the Sun Converters. Heat was intense along the buildings, but Thor didn't mind it. A refreshing wind blew off the lake, to the east, and he filled his lungs with the moisture-laden air. He gripped the rail of the walk for

guidance and glanced up at the tiers of Sun Converters. It reassured him to see those slowly-turning discs drawing the magnified sunlight into power-shafts. Power was feeding into the dynamos of the Shining City, and so long as that power continued to feed in and flow out to the apparatus of Science, the Shining City would stand.

Yet the counter-current in Thor's mind ran toward a lake of fear. Was it possible that his son—the son who had grown up under his guidance and whose thoughts he believed he had shared—had not completely accepted the authority of the Band? Did he retain a secret allegiance to the backward-looking people of the Northland? Thor knew that Leonard had never given up the hope of reuniting his parents, although he knew that his mother would never leave Superior City.

She, who had been Thor's mate, loved the customs of the Northland—the forests and the freedom of them—too much. One of Thor's clearest memories was that of Irenka standing on a mountain-top above an iron ore pit, hair flying loose in the wind and muscular arms folded across the lacing of her tight leather bodice. Her eyes, as purple as the wood violets at her feet, pulled to slits and her strong chin lifted as she looked out over the forest that stretched like green fur into the northern horizon. "My home," she said, speaking as much to the wind as to the man at her side. "It is part of me, and I am part of it; my son, who will be born in the deep of winter, will be a man of the forest."

That was the first that Thor had known of Leonard's coming. Once life had taken root inside her, Irenka had no further need for him until after the period of the infant's suckling, when the ice in her veins had again turned to steam. The oldest had been a girl, somewhat of a disappointment to Thor; the second, Irenka pronounced,

would be a boy. It was, and they named him Leonard. The birth of his son gave him new hope, and he built more sawmills and more houses from the product of the mills. There were other children, six more girls, but it was the boy in whom he centered his parental pride.

THOR HAD contributed much toward progress in Superior City. The dream of building had come to him when he was twelve. One winter day, while he fished through a hole in the ice of the lake, he looked at the helter-skelter of mud-smeared log huts in which his people had lived ever since the destruction of the Great Civilization over two hundred years before. He thought of the tales he had heard of the great city to the south where men of science were unlocking the secrets of the past. The big city needed food for the many thousands of people who were flocking there to work. The Northerners, spread out over forest-clearings and valleys and prairies around the lakes, could produce food in abundance. They had boats that could sail the lakes. Why could not the Northerners exchange their surplus food for big saws and tools like those that were found in the mounds of ruined cities? The scientific city could produce such things with ease.

He got people to listen to him and to help him; and even though he was not grown to the size of a man he went on the first trading boat to Chicago. He talked to men in laboratories, showed them the rusted and broken things from the ruined world. At length his plan was accepted by the men in the laboratories. The home that Thor built for Irenka before they took their wedding vows was made of lumber from the first sawmill in the Northland for over two hundred years. With that thought Thor wanted to forge ahead; but Irenka clung to the old ways, the superstitions and the ceremonies that had held the Norther-

ners to primitive existence. Too many people agreed with her, and Thor found himself pulling against her influence. He began to prolong his stays in Chicago when he went there on trading trips. Frequently he took Leonard with him, and when the boy was ten Thor arranged to place him in school there.

Since all trade was carried on by barter, the transaction was involved; Thor had never thought it wise to inform Leonard of the price of the schooling. The majority of outlanders who presented themselves to the city entered a life of virtual slavery. They agreed to perform tasks assigned to them in return for food, raiment, shelter and "planned recreation." They were trained only for the menial tasks and driven till they fell from illness or fatigue. But the lot of the "denizens" was preferable to the sketchy, animal-like existence in the camps of the Wanderers, from whence most of them came. The Northerners seldom surrendered to this slavery. However, the Social Engineers of the city desired the more robust and healthy-minded Northerners to the weak-willed, unreliable and disease-ridden types that came from the Wanderers.

Thor agreed to supply Northerner labor for gigantic construction projects under way in the city in return for his son's education.

Two years later the Scientists requested him to oversee this crew, and he accepted. Irenka had refused to come with him; when he insisted on going ahead with his plan, she declared their union at an end. At that time Leonard had chosen to remain with his father—not because he was more fond of Thor than his mother, but with the apparent hope of bringing his mother to the city.

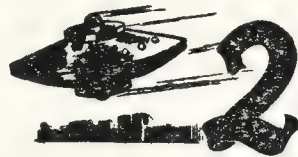
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At the entrance to the building that housed the laboratory of Doctor Gaurin One-One-Seven Thor paused and

looked out over the sun-sparkled blue of Lake Michigan. Twenty years he had been away from the Northland, and each year the social gap between the city dwellers and the Northerners had become wider. His former people had remained much as they were when he was a boy—worshipping idols, tilting with javelins, even though they lived in houses of sawed lumber. And in that twenty years, Chicago had become the Shining City of sun conversion. Thor had risen to President of the City Board, and Leonard had become an Honored Scientist—that is, he would be an Honored Scientist if his difficulty could be straightened out in time for him to go to Paris to accept the sceptre. They had chosen well, Thor decided.

Or had Leonard really chosen the Shining City? At thirty-three he was still adolescent in many ways; Thor realized, now, that in spite of scientific training, his son was emotionally undeveloped. For one thing, he was a perfectionist—an idealist who was intolerant of reality.

Gray-garbed dial operators in the control room of the Citadel of Science glanced up with furtive adoration as Thor strode through on his way to the private elevator. He was the only member of the Board who had come from the world outside the Band; the denizens regarded him as their representative in the ruling body. He curried that favor, and never forgot to bestow a nod or a smile on those he recognized. Even now, with worries pressing him, he paused several times to call out the greeting, "Fair day," to the ones who looked up expectantly.



IN THE glittering vault that was the private laboratory of Gaurin One-One-Seven Thor found the diminutive scientist and Marshal Romain Zachary of the Band Police,

their heads almost touching over a black light tank.

"We have been waiting for you." Gnurin's voice reminded Thor of metal grating on metal; the little scientist stood drawn almost backward in straight erectness, and his chin was thrust upward so that his back-heavy cranium rested on the collar of his smock. "Why didn't you come on the belt?"

Quickly Thor snatched off the sun mask he had forgotten to remove when he entered the building; he twisted it nervously in his hands as he approached the two waiting men.

"The mask is not what informed us that you were walking in the sun," Marshal Zachary said with a toothy smile. He, too, was a man of small stature, though the line of his graying blue-black hair was a little higher than the top of Doctor Gnurin's sparsely-covered skull. Beside the other man's skeleton-like ugliness the marshal of the Band Police was plumply pleasing to the eye. He filled his bright blue uniform with a bulge here and there, but he moved with a fluid grace and there was warmth in his wide smile and mischief without malice in his dark, flashing eyes.

"We watched you in the tank," Gnurin put in. "It is a new police invention. Operates radionically. Can tune in and watch anyone whose vibratory pattern is known. See, here is Elmer One-Eight-One. He was in the shower stall a few centiminutes ago; now he is plucking hairs out of his nose."

Zachary's laugh rippled out and he cut the control. "It would be much more interesting to watch a charming woman in her bath. We must have some vibratory charts made of the ladies!"

"You are not serious, Marshal!" The metallic rasp of Gnurin's voice made Thor shudder.

"Never more serious." The Marshal winked at Thor.

"Now to the business at hand."

Gnurin sank nimbly to the floor and sat cross-legged. He would not permit benches to be installed in his laboratory, and commanded everyone who came into his presence to sit on the floor.

With some difficulty Thor seated himself on the floor and sat with his knees thrust outward like great knobs. Zachary remained standing.

"Now about Leonard One-Two-Two," Gnurin began.

"Nothing of intent is established yet," Zachary cut in. "We of the Eye Squad do not regard his actions as anything serious, and we feel certain, my dear Thor, that you can save the situation. It is only that—"

"He has disobeyed the rules of the Band. The City Board must denounce him as a traitor. That is the only possible interpretation."

"It is not up to you to interpret anyone's actions, my dear Doctor Gnurin," Zachary purred. "As head of the Research Coordinating Board you will concern yourself with research."

"I am responsible for the behavior of research scientists, and Leonard One-Two-Two has far exceeded mere willful disobedience."

"Very well, that is your report, and the City Board must reach its own decision. Leonard Larsen—I cannot get used to these genetic rating names—has taken leave without obtaining permission; and certain formulas, and other files, are missing. It is our assumption—based on the findings of the Eye Squad—that he has taken them to the Argonne Pit to turn over to the Northerners. According to our present intelligence, this group of Northerners may be able to use the information to some advantage."

"I do not understand why this encampment of pariahs has been allowed to remain at the Pit, or what they are doing there," Doctor Gnurin said.

"It's a kind of religious rite," Thor explained. "They think the Pit is the door to Hell, and they make pilgrimages of penance to it."

GNURIN snorted. "Humph! There might be other activity there! We must not forget that ten years ago the glasteel plant at Gary was destroyed by guided bombs of a crude design, though most of them didn't get through."

"You don't have to go back to ten year-old bombings at Gary, Doctor. We had explosions in Paris ten days ago; only last year, one-third of London was wrecked. Prague has been blown out of the Band, twice, in the past twenty-five years. So long as information on the Old World's explosives is available, people will use it. What is more, they will use it against the Band, because the Band rules all the world that is worth ruling." He smiled broadly and gestured with both hands as much as to say, *That is what makes life exciting.*

"But this is not information of a military nature that Leonard has apparently taken." Thor's mind had wrapped itself around a thought and he could not leave it.

"Any scientific knowledge is military information," Gnurin snapped.

"We are not at war with the Northerners," Thor continued. "I don't see how—"

"You are not supposed to 'see how', Thor of the genetic rating Two-Two. Even though you are President of the City Board, you are merely Coordinator of Construction; you're not called on to exercise powers of scientific, social or political deduction!" Gnurin quivered with rising anger.

Thor prepared to defend himself, but before he could speak, Marshal Zachary cut in. "Reckrimination does not settle an argument, Doctor Gnurin, and argument does not solve a problem." His eyes flashed a warning, and the little man withdrew into a sulky silence. "Before we call a meeting of the City Board," he went on, speaking to Thor, "I think you should know of some of the Eye Squad findings."

A frown of apprehension formed on

Thor's face, but he erased it quickly. "If there are Eye Squad reports on my son, why hasn't Elmer informed me? He is Coordinator of Eye Squad work for the Shining City."

Zachary framed his reply carefully. "On occasions, Thor, when affairs of the Band are involved, a few formalities of procedure are dispensed with. Since I happened to be on the scene, it was only natural that the local Eye Squad officers in possession of highly confidential information should give it to a marshal of the Band Police."

"They knew that Elmer One-Eight-One is on Thor's belt," Gnurin snapped. "They knew the traitor would not be exposed if those two handled the matter in secret."

"Let us remain objective." Zachary's warning to Gnurin was more emphatic than the last. "Only a few centimimutes ago—when I was on my way to Doctor Gnurin's laboratory, to be exact—a Captain of the Eye Squad handed me a spool which was made by our counter-espionage agent in the encampment of the Northerners at the Argonne Pit." He opened a portfolio and took out the small cylinder. "I have not yet had an opportunity to play it, and therefore I do not know if it incriminates or clears Leonard."

Gnurin bounced on his haunches. "If you had informed me you had it, we could have played it while we were waiting for Thor instead of dallying with this police toy!"

Zachary grinned broadly and gestured with his outspread hands. "What do our Social Engineers say about pleasurable dalliance?" He slipped the spool on a spindle on the wall and opened the control. "Our agent was able to get only part of the speeches, but I believe the meaning is clear. That is what the Eye Squad Captain informed me."

A MAN'S VOICE, which was not Leonard's, came forth. "*What do we gain by dealing with the Shining City? We trade the summer's toil to a*

whole village for a circular saw, and many times in the bargain we give our women—our fairest women—to those sterile creatures who call themselves scientists..."

"Sterile?" Zachary arched an eyebrow. "My wife is giving birth to our tenth child!"

"I say," the recorded speech continued. *"let's do without saws and live in log houses, like our fathers did, and their fathers before them!"*

And keep our women for ourselves!" another man shouted.

"Let's have none of this science stuff. I'm not saying that Leonard Larsen don't mean well by us; but we been tricked so many times, we ought to be leery. How do we know this isn't just another trick aimed to do us in, or to sell us into slavery? Our spies report that Leonard is supposed to go to Paris tomorrow to get some kind of honors..."



Another voice, a resonant voice with laughter in it, cut in at this point. *"Honors within the Band are but the corn on which we are fattened for the moral slaughter!"*

"Leonard!" Thor exclaimed, the grayness of sorrow spreading over his face.

Zachary cut the control. "I believe our case is clear."

"Quite clear." Thor's eyes were curttained with sagging flesh and his mouth was a straight, hard line.

Gnurin bounded to his feet. "We can send out a hovering car carrying the Unvalator to wipe out the entire camp at the Pit."

"And when the word of this wanton destruction reaches your denizens, who will be left to perform your menial tasks?" Zachary asked. "Experience has shown we only create difficulties

when we use the methods of the ancients; somebody always escapes, then we have vengeance to deal with. Most troublesome."

"Who are you to moralize?" Gnurin demanded. "You, who have incinerated whole towns as a disciplinary measure! You, who had liquid fire poured on fleeing mobs. You put poison in rivers, sowed disease germs over two continents! And you tell us to spare a handful of enemies at our gate!"

"What better way to learn?" Zachary spread his hands, palms upward.

Thor shuddered. He had heard rumors of warfare, more hideous than that of the ancients, which had raged among cities of science before he came to the Shining City; but nothing concerning it had been recorded on history spools.

"Furthermore," Zachary picked up the thread of his argument, "the Unvalator is a device designed for construction. If we use it as a weapon of warfare, is it not possible that denizens in the construction crews might not revolt, seize it and turn it against us? Let us put not the means of our own destruction in the hands of possible enemies, or we, ourselves, may be reduced to cosmic ash."

"The denizens have a deep sense of justice," Thor added.

"Ah, I have it!" Gnurin rocked on the balls of his feet. "Thor will volunteer to find his son and bring him back for trial!"

"Is that not the duty of the Eye Squad?"

Zachary placed a hand on Thor's shoulder. "I believe the doctor has a point there. We must deal with these matters legally—give Leonard an opportunity to defend his actions before the Board."

"If such a trial should take place," Gnurin smacked his lipless mouth, "Thor would have to yield his seat—temporarily, of course."

"Of course." Zachary's sarcasm was lost on the other.

Thor strode to a cabinet and pushed three buttons simultaneously to call

other members of the Board to the meeting room.

IN ADDITION to the Building and Research seats on the Board, there were Security, filled by Elmer One-Eight-One; Social, by Juno Sixty-Seven, a tall, angular woman of unfeminine appearance, and Economic, by a round, bald little man who wore correction lenses over his eyeballs. For a reason no one could ascertain he had chosen the name of Doctor Vivian, and he refused to allow use of his genetic rating in connection with his name. It was his duty to supervise the production and acquisition of food-stuffs for the city; he maintained laboratories which were separate from those of Gnurin.

As they filed into the Board Room the members, other than Thor and Gnurin, were under the impression the meeting had been called for the purpose of making last-minute preparations for the journey to Paris; for a few centiminutes, while Thor prepared his announcement, Zachary answered questions about transportation arrangements.

In accordance with custom, the Board meeting was to be carried on a 'compulsion' channel; that is, it would appear on all telescreens in the City, and all denizens not engaged in the operation of vital public utility dials were compelled to watch them. It was taught in all schools—from kindergartens to Specialty Colleges—that the governments of all cities within the Band were "democratic"; since it was forbidden to argue the meaning or words everyone accepted this myth.

Thor caught sight of his reflection in the testing mirror beside the reception disc. His face was ashen, and a wisp of graying blond hair stood out like a horn over one ear. He smoothed his hair, and on the pretext of clearing his throat behind his hand, he moistened his lips and bit some color back into them. Whenever he stood

before a reception disc, he appeared to grow in stature and his voice took on a resonance that was almost musical. He spoke caressingly, even if a little condescendingly, and his enunciation was careful so that the newest denizen might understand his words.

"The meeting will come to order," he announced. It was a command to all those who gathered before the telescreens as much as to those in the Board Room. His eyes travelled from one face to another. Elmer resented Zachary's presence and he slouched in a sulky pout; Juno was preoccupied with the social theories she hoped to have an opportunity to propound in Paris the next day. As Thor's glance fell on Doctor Vivian he recalled something Leonard had said about him: "A mass of yeast; if you'd stir him, he'd bubble." Gnurin licked his lipless mouth in anticipation.

"A very serious matter has come up, and at a most inopportune time," Thor began. "I know all of you of the Board are occupied with preparations for tomorrow's celebration; but I will have to ask you to give undivided attention to the problem before us. And let us approach it with complete objectivity, as true scientists. I well remember that statement of my esteemed predecessor with which he opened all Board meetings: *'The Old World was wrecked by ten parts subjectivity and one part fissionable material.'*"

He paused dramatically, then with an apprehensive glance at Gnurin, he called on Zachary to give the security report.

The Marshal rose, bowed to Elmer and mumbled, "With your permission, sir." He then gave the facts as he had previously outlined them.

A stunned hush fell over the room, and Thor again took the disc. His voice was grave, though he showed no signs of emotion in his bearing. "Fellow Board Members, I regret to say that, because of this unfortunate occurrence, I cannot accompany you to

Paris tomorrow; but I want the celebration to proceed as though nothing had happened. The honors I was to accept are, in fact, honors for the Building Department and the Shining City as a whole; the next in rank on the Board will accept them in my stead."

Doctor Gnurin made no effort to conceal his pleasure, but Thor held up his hand for silence. "I feel I can best serve my City and the Band by bringing this errant scientist, who happens to be my son, back to face trial. If Science is to triumph over superstition, ignorance and disorder, we must allow none of our cherished secrets to fall into the hands of people who do not accept our plan of life. Our justice must prevail; if my son has committed a crime against our society, he must be punished. It is my duty as a scientist of the Band and as a parent to bring him back to the Shining City. That is my proposal, is there any discussion?"

All members of the Board were on their feet, but Elmer was the first to reach the reception disc. "This is a simple matter for the Eye Squad, Mister President. I do not feel that Leonard's defection calls for more special attention than any other case. We have able counter-espionage agents among the Northerners, and it will be a simple matter to locate and apprehend the culprit."

"I disagree!" Juno bounded to the disc as though propelled by a spring mechanism. "We have here an example of parental subjectivity against which I have long campaigned. If we are to progress as a scientific nation we must put an end to family ties! Leonard One-Two-Two would not be a fugitive and a suspected traitor today if he had been trained scientifically. Our President's nobility comes a little late; punishment should be inflicted on father and son alike, for one is as guilty as the other!"

"Are we not being over-dramatic?" Doctor Vivian pushed up beside Juno. "The difference between our scientific

civilization and others which have perished ignobly is that we can profit by our mistakes. Let us not waste time on recrimination or costly trials and executions, but let us go forward in a truly scientific manner. Our Eye Squad has certain lethal equipment with which to deal with traitors. Send a good man, or two, after this criminal, deal with him on the spot and end the matter there."

"You forget one thing!" It was Gnurin who spoke. "Research scientists and apprentices must be taught the sanctity of secrecy. If making an example of Leonard One-Two-Two seems costly from a purely economic standpoint, we must realize that the eventual social gains will more than justify the time and effort spent on a trial. I propose that Thor Two-Two's plan be accepted."

Thor's face was a mask as he called for a vote on the proposal.

"Concur!" All were in agreement.

"So ordered. Meeting adjourned." Thor closed the connection on the reception disc and walked rapidly from the room. He was not sure how much longer he could retain his composure.



MARSHAL Zachary overtook him in the corridor. "Splendid, my dear President, splendid!" he panted. "You were magnificent! Objective to the last!" Then, in answer to a sidelong glance of suspicion from Thor, he added, "I will go with you to your quarters to assist you in preparing for the expedition."

Thor wanted to be alone, but he realized that, under the circumstances, it was impossible. Not until he delivered his son for trial—or resolved the matter in some other manner—would he be free from Eye Squad surveillance.

He and Zachary rode a low level belt through a strip that was called The Park, which was bright and fragrant with blooming fruit trees. Here the artificial spring sun shone warmly, and plants sprang to life in the prepared loam. Much of the food for the City was raised in the Parks, above which towered the glasteel buildings. Doctor Vivian continually harangued the agronomists and food chemists to speed up their food-production experiments to a point where it would no longer be necessary for the Shining City to trade with outlanders for food-stuffs; so far, the goal had not been reached.

Thor was not thinking of food-production, however. A shower of peach-bloom petals from an overhanging branch fell on the belt, and the sight brought back to his mind another such ride through an indoor Park in spring—his first trip though the City with Leonard. The boy was only ten, and had just been accepted for schooling in the city that was then called Chicago. They clung together, each trying to conceal his fright, and gazed in wonder at blooming trees that were not native to the Northland. At length the boy had spoken. "Father, there are no birds."

"I guess there is no need for birds, my son," Thor remembered saying.

Whereupon the boy had added thoughtfully, "Perhaps the birds do not choose to live in this great cage."

Marshal Zachary spoke, bringing Thor back to the present. "You may rely on me to look after your charming Anisse in Paris."

"She will not go without me!" Thor blurted out.

"Oh, but she will, my dear Thor; arrangements have already been made to welcome her."

"They were also made to welcome me; the plans will have to be changed."

"It has been a long time since Anisse was in Paris. Surely you would not want to deprive her of the visit to her home city."

"It's hardly proper," Thor parried, remembering her last words to him.

"As you should well know by this time, my dear Thor, the world of Science does not adhere to the rigid standards of your Northland."

There was a secret understanding of some sort between Zachary and Anisse, Thor decided as he watched them during the Social Hour. It did not come out in anything they said, but in the glances they exchanged as they talked of the Cultural Decline in the Twentieth Century. That was the topic of the day chosen by the Social Engineer, whose discourse had already begun when Thor and Zachary reached the apartment. Thor had difficulty concentrating on "the manifestation of mechanical prisms in musical scores," and he was relieved when the ordeal came to an end.

ANISSE rose as soon as the tele-screen went blank. "I may not see you in the morning, Thor," she said, brushing her cheek against his in a perfunctory caress. Her eyes evaded his. "Good rest, my dear."

He waited hungrily for a word of encouragement or sympathy on the expedition, but she spoke none. Instead she turned to Zachary with a smile that was warm and full of meaning. "I will see you in the official car, if not at the sky station, Marshal. Good rest."

Zachary bowed from the waist. "Good rest, Madame the President,



and may health be yours on the morrow." When she had gone he turned to Thor. "I hope it won't disturb you if I remain with you tonight. Mere formality, you know."

"A pleasure, indeed," Thor responded coolly. "You may take Leonard's

room; or, if you prefer, we will bring his pallet into my study."

"I'm afraid regulations require me to share your sleeping room with you."

Thor smiled at the marshal's tact in permitting himself to be watched.

"Women!" Zachary made conversation as he dialed Eye Squad headquarters. "We are drawn to them as a sky car to a gear lock, and yet it is good to be away from them at times. As soon as the Paris celebration is over tomorrow, so is my vacation from my wife. She has given birth again, as I believe I told you, and she will make life difficult for me if I do not attend the christening ceremony. A true daughter of old Syeria, my wife—fat, shrill-voiced, a tyrant in the harem, as ugly as all the sins of the world. You would be fascinated by her ugliness, Thor—one side of her face covered by a purple birth-blotch. But feminine, ah, how beautifully feminine! Soft limbs and yielding lips—what a woman, my wife!"

He completed the sentence after the face of the Control Guard appeared on the screen. The guard tried to suppress a smile, but Zachary winked at him mischievously. "At sixty-two I should settle down—no?"

The guard's stern face crackled with lines of laughter. "You called, sir?" Any lingering loyalty to Thor that might have slowed the guard's hand at the controls was overcome by the marshal's ebullience.

"First, and most important, send my dinner to Thor's apartment. Then, get me Transportation—and don't go away, I'll be wanting a lot of things."

Several times, Thor felt that his dam of self-control would give way as he and Zachary worked out the details of his trip. He could not eat the food sticks that were delivered to his wall slot, and watched Zachary bite into them, feeling a touch of revulsion.

"What the Shining City needs is an expert on flavor," the marshal commented as he picked crumbs from a wrapper. "In Prague we have paprika;

in Paris they use too much garlic flavor; London has its leeks; but the Shining City has nothing—nothing but tasteless and slimy gook."

"I believe Doctor Vivian is experimenting with flavors," Thor responded absently.

"So long as Vivian stays on the food vats, you'll have nothing but gook. A most unimaginative creature, but that is the curse of our scientific world—too little imagination, too little laughter! Why, stars above me, I seldom have anything to laugh at but my own jokes, and that gets tiresome."

Captain Renlow Sears was assigned to go with Thor on the search for Leonard, and Sears agreed to select an assistant. Elmer said that Sears had volunteered because he knew something of Leonard's habits. "Also," Elmer added in a tone he hoped would not carry to Thor, "Sears won't stand so much in awe of the President as other officers would. He had accompanied Leonard to his apartment on occasions and has seen the President in informal attire."

"Very good," Zachary pronounced, and directed his next call to the sky station storage room.

Thor would travel in a sun-battery powered hovering car, similar to the one Leonard had taken. These cars were used for research expeditions outside the Band, since they were small, light, and could execute landings and takeoffs on any terrain—although they were incapable of rising above the atmosphere or travelling faster than two hundred kilometers in a telechron turn. The only weapons requisitioned for the trip were small carbon ray guns with a few rounds of reload capsules.

"Squad regulations," Zachary explained as Thor protested.

"Leonard will obey my command." Thor did not expect the marshal to believe him; in fact, he did not believe it himself. But he could not let himself regard Leonard as hostile to the authority of the Band. "There must

be some explanation," he went on, hardly aware that he had spoken.

Zachary smiled at him with something akin to sympathy. "We must get some sleep," he said, cutting all controls.



THOR'S CAR was scheduled to launch ahead of the official car for Paris, but when he and Zachary reached the sky station it was ablaze with red gowned women. They all looked much alike as they fluttered around, talking in knots of three and four; their combined voices reminded Thor of the cawing of crows in a field of freshly planted corn. Eagerly he looked for Anisse—there were twenty women who were stick-slender with a billow of artificial yellow hair falling over their shoulders. A profile that was like hers turned out to belong on another face; another woman moved with her quick grace, and a third affected the same nervous toss of the head. At last he saw her on the other side of the great room, but by the time he reached the spot she was gone.

"Captain Sears and his assistant have your car loaded," Zachary announced as he caught a signal from the station guard.

Thor turned with some relief to follow the marshal. Elmer One-Eight-One stood beside the car speaking to the Eye Squad Captain.

"You will not leave the car unguarded at any time. If the Northerners attempt to seize it, destroy it and make your way back as best you can. Remember, Captain Sears, you are in charge of the expedition." The marshal's eyes avoided Thor's.

Sears touched his cap in a salute and assisted Thor into the cabin. The assistant followed and took the seat beside Thor. Thor's eyes sought Zachary's for an explanation of the Captain's unprecedented authority, but already the rotor was whirring. The

marshal's face; as the hovering car rose upward on the launching platform he fancied he saw Zachary's smile following them. It followed them into the air and stretched across the entire sky above the Shining City. It was a smile without the malice of Gnurin's fleshless grin, or the chill of Anisse's smirk; Thor had a feeling that Zachary was the only person in the Band who wished him to return. This slight reassurance kindled a warmth in him for the city that was diminishing below the car. It appeared a fragile thing, that glasteel band that clung to the curving shore of Lake Michigan, a glittering toy resting on a pad of earth brown and water blue.

Thor watched the toy city grow smaller until the car passed over the Argonne Pit, when the view was obscured by flames and curling smoke. He shuddered slightly, thinking of the scenes of horrible destruction that had taken place in the great wars which had left such scars as the volcanic crevice below them. He could evoke no feeling for the folly-ridden humans who had invited their own incineration; he cared nothing about the demolition of the ancient stone and rubbish piles that were the cities, but he resented the red-raw wounds in the earth's surface, such as the Argonne Pit and others he had seen in the European continent.

Captain Sears, who operated the car, circled the Pit several times in order to get an opportunity to search all the surrounding fields for the hovering car Leonard had taken.

"He is not there," Thor pronounced after the fourth turn.

"Evidently he has gone—but where?" The captain held the car in a hovering position awaiting Thor's suggestion as to course.

"He has done considerable work at the site of the old Colorado shale plant. Perhaps he has gone there." Thor endeavored to convince himself that Leonard's departure from the

Shining City was along the line of duty.

Captain Sears, a tight-lipped, square-jawed veteran of the Eye Squad, turned to fix Thor with a dispassionate stare. "Would it not be your suggestion, sir, that we search the site of the shale plant *after* we have exhausted other possibilities?"

"I suppose so." Thor settled back in his seat. "Your guess is as good as mine, Captain."

"Headquarters may have a suggestion." Sears cut in the outlet grille in the ceiling of the cabin and adjusted the dial to the Eye Squad wave band.

THE CABIN of the car was somewhat crowded with the three men, their food supplies, medical aid equipment, heavy coats for the Northern cold and their weapons. They carried food for ten days, since they did not know how far they would have to go in search of Leonard. Thor and the assistant, Erik Forty-Four, sat behind Captain Sears, who handled all the controls alone. Erik was a youth of not more than twenty-one or twenty-two; Thor guessed, from the reddish-blond hair that was visible below the band of his uniform cap, that he was a descendant of some branch of Northerners. He sat stiffly erect in his seat, apparently uncertain how to conduct himself in the presence of the President of the Shining City Board.

Thor, in turn, was ill at ease, knowing that he was virtually a prisoner. It was an Eye Squad axiom that until he had proven himself innocent each suspect or associate with a suspect was to be regarded as guilty. One of the refinements which Elmer One-Eight-One of the Board had added to Eye Squad investigation procedure was the plan for providing suspects with "*tasks of test*." Now that Thor had time to reflect on the matter, he realized that he had been maneuvered into a task of test. He sought escape from the unpleasant thoughts that continued to

boil in his mind, and turned his attention to his companions.

"Headquarters reports that Leonard left the Pit yesterday afternoon; he loaded Northerners into his car and they travelled in a northeasterly direction from the Pit. They are twenty turns of the telechron ahead of us, but it is suggested we try the Ten Cities on the eastern shore of the lake."

It was no use; he could not escape. Thor remained silent. Once they were over the blue monotony of the lake the silence in the cabin became oppressive. Sears tuned in the celebration in Paris, but shut it off before long. The broadcast was the formal greetings of arrivals at the Paris sky station. Genetic rating numbers were used instead of surnames, and Thor caught himself smiling at what Leonard would probably say: "*Sounds like a kindergarten counting lesson!*"

Leonard had left the Ten Cities by the time they arrived. Reports to the Shining City Eye Squad headquarters from espionage agents in that area were to the effect that he had landed, dropped the men he carried with him and picked up three "agitators" of that region. The agents making the report from the Ten Cities were more thorough than those stationed at the Argonne Pit, and the report was detailed and exact—although it had not been possible to make a spool recording of everything that had taken place. The men Leonard left at the Ten Cities were expert javelin-throwers as well as competent organizers. Apparently, the report went on, it was his aim to coordinate forces of various settlements around the lake which were antagonistic to the Shining City. This was the only explanation the Eye Squad could offer for the exchange of leaders.

"People from a kilometer in every direction ran to the hovering car when it landed," the agent reported. "Some thought it was a kind of heavenly body come to earth; others thought it was

an invasion from the Shining City, and they were about to attack when Leonard halted them by shouting through an amplifier: *'I am Leonard Larsen, a Northerner. I have come to bring you a plan to get some of the good things from the Shining City without selling your sons and your daughters into slavery!'*"

The report ended with that quotation and Sears cut the control. "If I may comment, sir," the captain said, "that speech attributed to Leonard is not characteristic of him. I have accompanied him on many expeditions and I have never heard him say anything that was not—how shall I put it?—kind of pointed with bitter humor. He didn't make declarations straight, that way."

Thor regarded the Eye Squad captain in a new light, and he let down some of the barriers of his reserve. "No, it doesn't sound like anything Leonard would say," he agreed; "Leonard's wit was somewhat mordant; he was frequently accused of 'spouting epigrams'."

"That's it, sir!" Sears responded warmly.

"I never heard him say anything," Erik put in, speaking for the first time on the journey; "but one time I was on duty in the sky station when he came in from someplace. I seen him make a face at the outlet grille when Doctor Gnurin was speaking. It was so funny I had to laugh, but of course I hid my face and pretended I did not see him."

"He meant nothing disrespectful, I'm sure," Sears added quickly.

"Of course not," Thor agreed with a relieved sigh. "Just boyish. I guess I forced him to study too hard when he was young and his playfulness came out later."



EYE SQUAD headquarters decided Leonard's next destination was

Superior City, and without making a landing at the Ten Cities Sears set his direction to the northwest. Again they were over the monotony of water, and Thor suggested that Sears tune in the Paris celebration.

The roar of applause came through the grille before an image appeared on the screen and a voice was saying, "...calls for a report from you, Doctor One-One-Seven, on the Invalator and the Unvalator."

Erik groaned. "Gnurin again!"

"A correction, if you please!" The image of Gnurin appeared, standing stiffly erect. "The *Unvalator* should always be mentioned first, since it was the first to be invented. Also, this device must complete certain operations before the Invalator can function.

"I suppose by this time," his tone indicated that he had launched into his prepared speech, "that everyone within the Band knows that my Department of Research in the Shining City developed these scientific marvels. Now a word about the principles on which they operate—and who is better qualified than I, who have spent years in consultation with my inventors, poring over these charts."

He waved a sheaf of parchments. "First, the *Unvalator*. It operates like this: These multiple sonic drums—" He held a chart before the reception disc and pointed with a bony finger. "—record the vibratory pattern of any mass to which the reception slate is exposed—buildings or other installations, an earth formation—anything, and in less than one-tenth of a centisecond counter-vibrations are set up in these drums here..." He traced his finger down the chart. "These counter-vibrations will instantly disintegrate everything to which the slate has been exposed. An *Unvalator* the size of the experimental model in the Shining City could be mounted in a large hovering car and transported to a field of battle, if need be, and in the time it

would require for the car to pass over the area, everything within a radius of a kilometer square would be reduced to cosmic ash!" He lowered the chart exposing a ghoulisn grin to the disc.

Applause again swelled and he acknowledged it by bowing first to the right then to the left; then he stepped to one side and bowed to someone apparently in the wings of the Coliseum stage. Thor was familiar with the building in which the ceremonies were to take place and his imagination filled in details that were not recorded in the reception disc.

The doctor's grin faded and he held up his hand for silence. "Warfare is costly," he announced in round, oratorical tones. "I repeat, warfare is costly, and we scientists of the Band hope to avoid it forevermore! And we will, so long as we keep all science within the Band. We must ruthlessly put down all attempts to pass the smallest secret of our science to the primitive hordes that swarm at our gates. Science is for the scientists and those who accept our leadership!" He barked these words defiantly, as though challenging an enemy.

"Enough!" Sears cut the control and Gnurin's livid face sputtered to grayness.

"Quite enough!" Thor was grave; "he said many things that should not have been said."

"He usually does," Erik said solemnly, apparently unaware that criticism of a Board member by one of the lower rank was forbidden.

Sears shot a warning glance over his shoulder, but Thor laughed. "You're very right, Erik!" The tension was re-

lieved, and the two Eye Squad officers laughed with Thor.

DESPITE the grimness of their errand, Thor was deriving considerable pleasure from the company of these men. While the grille was silent they talked as men who are equals, and Thor told them something of life in the Northland, of the industry and simple pleasures of people who lived without benefit of science.

Erik revealed that he had come from the region of the Ten Cities. Like Thor, he had brought a crew of denizens to the Shining City, had been rewarded with a position on the Eye Squad. He, too, had fished through a hole in the ice when he was a boy, had danced square dances and played a catgut fiddle.

At length Sears interrupted. "The public ceremony in Paris will soon come to an end," he said, consulting the telechron on his arm. "Should we tune in for the last of it?"

"By all means!" Thor straightened, suddenly remembering his position.

The figure of a Master of Ceremonies appeared on the screen. "And now, men and women of Science, we have a still greater treat in store for us. Never before in the history of the Band have so many of our great gathered together, and never before has the world of Science enjoyed such an intellectual feast. We have heard from Doctor One-One-Seven of the Shining City of our greatest scientific achievement—the invention of the all-devouring Unvalator and of the miniature Sun Converter, the Invalator. While other inventions described here today are noteworthy, these twin building apparati far overshadow everything else. Now to make the summation on these inventions, I want to present a scientist to whom the Band owes everything. Without him there would have been no Band of scientific cities, there probably would have been no Science, as we know it today. It was his great foresight, his organizational genius, his



tireless effort at a time when the cities of science were contending bitterly one against the other, that made it possible for us to meet here today in peace. But he has worked so unobtrusively that few of us have heard his name, and none but his intimates have seen his face. His modesty exceeds his genius, yet because of the great significance of this occasion, he has consented to come forth. He will speak to you now from behind a shielding screen. May I present—Doctor Eli Julian of Prague!”

The applause that followed lasted during the time the fleur-de-lis shielding screen was moved close to the reception disc. There was a moment of confusion and the telescreen was cluttered with attendants of the great man, among whom was a woman who apparently had been speaking with him. Her dress was the official red, and her hair the color of a flame-tip. Though her face was on the screen but a centi-second, it remained long enough for Thor to recognize Anisse.

At first he tried to tell himself he had been mistaken, but he knew he was not. Anisse was among the “intimates” permitted to see the face of this mysterious manipulator of Band affairs. *How intimate?* Thor asked himself. A parade of long-suppressed thoughts flashed through his mind: the way her eye slid aside when she responded to his caresses, an impatient toss of her head while he was talking, a suggestion about City policy that was given with the ring of an ultimatum. Was it possible that Anisse had been in league with Doctor Julian all the time he had shared her pallet? An observation of Leonard's came to his mind. *“Women of the Band are motivated either by passion or politics—generally politics.”*

Doctor Julian spoke in a deep, though somewhat nasal voice. It was a well-modulated voice, trained for public speaking, and it had the resonance of great energy in it. No accent or colloquial expression gave a hint of

the man's geographical origin; Thor wondered about his physical appearance, whether he was tall and fair, round and ruddy or squat and dark. Thor tried to picture him, but his thoughts were colored by jealousy. Whether the speech was poetic or prosaic he would never know. Julian said something about the Unvalator and the Invalator and the Shining City, and vaguely Thor realized that the great man had paid tribute to the work he had done, though he was sure the name of Thor Two-Two had not been mentioned. *Perhaps*, he thought bitterly, *Julian implies praise for Anisse's accomplishment.*

“We are coming to Superior City, sir.” Captain Sears spoke and Thor became aware that Doctor Julian's speech had ended; the blare of martial music came through the grille.



IT WAS growing dark, and the lights of the town twinkled like a small constellation at the edge of the steely gray of the lake below them. “I think you'll find a suitable landing spot near the south edge of town,” Thor said.

Gone was the sense of camaraderie which had developed among the three men in the cabin, and Thor felt sure that the others had noticed his reaction to the appearance of Anisse. Had Sears recognized her? Thor fervently hoped not. Although Leonard's behavior had grieved him deeply, he was more chagrined over his discovery of Anisse's betrayal; at the moment he was almost glad he had a sorrow on which to concentrate.

Sears maneuvered the hovering car down in a small, freshly-plowed field; as soon as the door was opened Thor

examined the ground to see if they had broken the young sprouts of plants. Sears laughed. "Leonard used to say it was better to risk the wrath of the gods by landing on a rough spot, rather than the wrath of a farmer by landing in his field!"

"Leonard loves growing things, and people who tend them," Thor sighed. A sadness had settled over him, a sadness he could not analyze.

After they had stretched and made themselves comfortable, they opened packages of food and ate in silence. All around lay the forest, great trees that sheltered the small, cultivated plots and the scattered buildings. In the twilight, low mountains looked like the furred backs of sleeping green cats; Thor's mind went back to his boyhood fancies about those mountains and the lake that was always cold. He had imagined the mountains were enormous cat-creatures that had slept for over two hundred years, and that chill-blooded reptilian monsters slumbered in the lake. He had believed that the destruction at the end of the Twentieth Century had been the work of these terrifying creatures, that they would again rouse to spread death and horror if human beings tampered too much with Nature. Even now, though he accepted Science's interpretations of the wars that had wiped out the old world, he found himself trembling at the thought of bringing a sun-powered car into the presence of those sleeping monsters.

Erik, too, appeared to be wrapped in strange thought, and listening for something. Sears shot a questioning glance at the boy, who grinned apologetically. "Can't help it; when I get out in the country this time of year I always listen for cicadas."

"It isn't time for cicadas." Sears frowned sternly, and it occurred to Thor that it was strange an Eye Squad officer from the Shining City would know about things of the country. He concluded that Sears had

learned much from Leonard on their trips together.

Sears gave Erik instructions about guarding the car. Handing the youth a carbon ray gun, he said, "Don't shoot except to protect your life. If Northerners try to attack you, take the car off the ground and hover around the location. Flash the blue signal light so we can find you. Remember, it will be better to run some risk rather than to antagonize these people; we are far outnumbered, and there may have been some weapons in the car Leonard took."

Erik's "Yes, sir," was not very forceful, and Thor felt a sudden wave of pity for the young officer on his first important assignment. "There won't be any trouble," he assured the boy. "This is my home; these are my people. They will not harm you."

"Shall we go, sir? It's growing dark very rapidly." Sears, too, showed signs of uneasiness, though he was more adept at concealing it.

THEY STEPPED out of the car, put on their uniform great-coats and set out for the town, half a kilometer distant. Sears walked cautiously on the balls of his feet, and glanced with apprehension at the shrubbery, which was just taking leaf.

It passed through Thor's mind that their energy guns, intended for use at close range within the City, could not protect them against a shower of javelins hurled from ambush. If they were attacked they could not hope to escape; however, the excitement that pounded in his veins was not altogether that of fear.

The ozone of evergreens was in the crisp, cool air, and as they came nearer to the cluster of whitewashed houses the smell of woodsmoke and frying fish came out to greet them, and off in the distance they could hear the shouts of children at play. They were healthy, happy sounds, unlike the mechanized rumble of the Shining City.

Thor felt a swell of pride as they trod on the plank walks that led into the little city. His effort in getting saws for the Northerners had made those walks possible, as well as the trim frame buildings along the streets. Something akin to a sense of guilt crept into his thoughts as he dwelt on this past, but quickly his gyroscopic rationalization righted his ego. He had done the only thing possible by going to the Shining City and taking Leonard with him. Had not the great Doctor Julian—and here another thought rankled—recognized his work, if not him, when he praised accomplishments with the Unvalator and Invalator?

His reverie was interrupted when a door of a nearby cottage flew open and a yellow light streaked out across the walk. A woman threw out a pan of slop, and a dog ran out, barking. They were discovered.

The Eye Squad Captain stiffened and made ready his weapon.

"Let me do the talking," Thor said.

Before he could speak, however, the woman called out to the dog. "What is it, Pete? Who's there?" She was a young woman, ample of figure with strong, round arms and a determined chin that thrust out as she turned her profile to call to someone indoors. "Come here, Axel. It's strangers."

The dog continued to bark, though he made no attempt to attack. Thor pushed aside the gun which Sears levelled at the animal. "Which is the home of Irenka Larsen?" he called to the young woman.

She raised her hand to her brow and peered into the darkness. "Hush, Pete, be quiet!" The dog ceased barking. "Who wants my mother?"

A huge man towered beside her in the doorway. "Get inside, Helga." Roughly he pushed her back into the room, then he took three great strides out to where Thor and the captain stood. "I never seen you before; who are you? What do you want?"

"We're from—from—" So that was

Helga, the youngest, the little girl with hair like spun moonbeams and eyes the color of deep ice. A lump swelled in Thor's throat, choking off his voice; he forgot he was President of the Board of the Shining City. He wanted to rush past the glowering man and sweep the woman into an embrace, but a warning from the Eye Squad captain restrained him. "We've come to see Irenka Larsen on business," he added weakly.

"Two squares down, turn left one square. You can't miss it, a two story white house on the corner. With six sons-in-law to support her, the old woman gets the best!"

The dog barked again and other dogs took up the barking; then doors and window shutters along the street opened and the openings filled with the curious faces of men and women and the tousled white hair of fair children. They were not unfriendly faces, but Thor became conscious of the uniforms he and Captain Sears wore. By now, people along the street knew that two men from the Shining City were on their way to Irenka Larsen's house. Shadowy figures darted across garden plots, and Thor imagined he saw them come from the large house that stood out white against the backdrop of mountain darkness.

"We'll either be welcomed, or—" Thor did not finish the sentence because a woman running toward them blocked their way.

SHE WAS dressed in the black clothes of mourning, with a black headshawl fastened tightly at her throat so that her long and rather homely face appeared to swim bodiless in the gloom. Thor's first thought was that he was staring at his own reflection.

The woman scrutinized him closely, her eyes burning with emotion. "Father!" It was an announcement, not a cry.

Thor fumbled in his memory, trying to recall the faces of his daughters.

"It's Irenie," she went on. "A widow, thanks to the sawmills you brought to Superior City. It's no use seeing Mother; she knows nothing about Leonard—and that's who you came to see, I know. Go back to the Shining City, Father, back to that harlot in the red dress. We don't want you here!" Her voice rose to a shrill that was almost hysterical.

"Irenie!" Thor reached out to touch her but she evaded him. "I must talk to Leonard; it's the only way!"

"Talk to the wind!" she spat. "You won't find Leonard!"

"Come, Captain." Thor stepped off the walk and waded through the rutted mud of the street toward the tall house.

Light streaked through the shutters of the house that was Irenka's; as Thor approached it he remembered the cottage he had built for her on that site. Leonard and the seven girls had been born in it. He remembered the smell of the sweet peas that had been planted in neat rows beside the walk, the violets that had bloomed in the shelter of the garden wall, the first onions of spring, the water, cool and fresh from the well back of the house, and the shouts of laughter of his children at play. He stumbled on the steps and Captain Sears caught his arm.

"I'll wait for you at the car, sir." The Eye Squad Captain saluted and turned away, leaving Thor to enter the house alone.

He pushed open the door that stood ajar. It creaked on crude hinges, and he noted that the construction was not so good as in the tidy cottage he had built to Irenka. The odor of cabbage soup was strong in the cavernous hallway, and it guided him to a lighted room in the back of the house.

"Is that you, Irenie? Supper's ready." A large fair-skinned woman stood over the brick stove in the corner of the kitchen holding a wooden ladle. As she turned, Thor saw that his former wife's face and figure were

more rounded and her eyes were less blue than when he had last seen her; but there was little gray in the pale gold of her hair, and she still radiated the same vibrant strength that had first attracted him.

She stared, eyes wide, and the ladle fell from her hand.

Thor felt his knees grow weak, but he fought for self-control. He picked up the ladle, wiped it on the skirt of his coat and dipped into the steaming soup pot. "What we need in the Shining City, Irenka," he said putting the ladle to his lips, "is an expert on flavor. All we get to eat is gook, tasteless and slimy gook." He blew on the soup, then sipped it from the ladle. "This tastes like food!"

Irenka backed away from him, still staring in disbelief. "You wouldn't dare, Thor Larsen! You wouldn't dare come home after all these years, and walk right into my kitchen! Why, your sons-in-law will thrash you, take you out to the whipping post and thrash you with leather lashes, like they do the men that desert their families!"

THOUGH he was trembling with excitement, Thor cast aside his coat and lifted the lid of another pot that simmered on the stove. "Ah, burnt wheat-coffee! It's been years since I've had a cup of coffee, Irenka."

"You're the President of the Shining City, and you just walk into my kitchen and start talking to me about soup and coffee!" She lifted her apron to wipe away tears that ran down her cheeks.

"I'm hungry, Irenka; let's eat supper."

"Irenie isn't home yet. She lives with me now—since her man was killed—she and Jamie, but he's out on a fishing boat." Irenka turned to a cupboard and took down three pottery bowls and put them on the table that stood in the center of the room.

"I've got a tablecloth for company, but it's dirty."

"You've had company?" He got wooden spoons from the cupboard and laid them beside the bowls.

"There's cups in the dishpan; I'll dry them. I can't imagine what's keeping Irenie. She knew supper was ready."

"Leonard's been here, drinking coffee." He took the towel from her hand, wiped the cups and set them on the table.

Irenka's shoulders tensed and she busied herself at the stove, ladling soup into the bowls. "He was here—and gone. Just for dinner he stayed, then coffee in the afternoon. He had one of them little talking things that he wore like a belt around his waist, and kept listening to it. A little while ago he got some kind of warning on it. He kissed me and said he couldn't stay for supper. Irenie went with him, but she wouldn't go in that flying car with him. Maybe I ought not to tell you this, but it's kind of good having somebody to talk to. Leonard didn't talk much to me—only to Irenie and to some of the young men Jamie knows. They were in the sitting-room while I was out here in the back." She broke chunks from a loaf of bread and laid them on the table.

Thoughtfully, Thor crumbled bread into a bowl of soup. "Leonard is gone? Where?"

Before Irenka replied she bowed her head and mumbled a short prayer of grace. "I don't know, Thor. I was so excited, him coming home after all these years, and I was hurrying around trying to make things nice for him. I was in there changing the blankets on Jamie's bed when he said he had to go. He's not in trouble in the Shining City is he, Thor?"

"Jamie?" Thor sipped the black brew that was called coffee, and pretended not to hear Irenka's question. "Why he wasn't born yet when I—when I went to Shining City!" He wondered what Anisse would have said

had she known that he had a grown grandson.

Irenka studied his face for twenty heart-beats before she spoke. "You have ways of staying young in the Shining City?"

Thor knew that Leonard had told her of Anisse. The vision of the woman in red beside Doctor Julian's screen rose up in his mind, and his appetite left him. He laid down his spoon. "There are things, Irenka, that make one grow old very fast in the cities of the Band."

"What's the 'Band?'"

Thor did not have the opportunity to reply to her question. There was a commotion in the hallway—a barking dog, a shriek that was Irenie's, and heavy footsteps. Captain Sears, followed by Irenie burst into the kitchen. "The car, sir! It's been stolen! And Erik with it, abducted! There was a struggle... I came right back here, sir."

"He's lying!" Irenie cried. "It's a made up story to blacken Leonard!"

"The woman's insane!" Sears' eyes flashed anger. "You must come with me sir, immediately!" He took up Thor's coat and held it for him.

"They traded flying cars! I heard the whole thing; Leonard didn't do anything wrong!" Irenie went on.

"Where is Leonard now?" Thor demanded.

"He flew away."

"He's gone, sir. I got there too late to stop him!"

"You liar!"

"Come, sir. He left the other car in the field. It may be destroyed if we don't hurry!" Sears laid hold of Thor's arm and pulled him toward the doorway.

Thor glanced back at Irenka. She had detached herself from the scene and was calmly refilling the coffee pot. She did not look up as he left.

ON THE WAY back to the field Thor endeavored to find out

what had taken place, but Sears replied only, "We must hurry, sir!" and set the pace so fast that talk was impossible.

A group of twenty or more youths surrounded the hovering car that stood on the field near where the other car had been; but they fell away as Captain Sears drew his gun and waved it threateningly. Some of them called out mild insults, but compared to Irenie's vehemence the demonstration was dissipated. Recalling it later, Thor was somewhat puzzled, but decided that the group had been drawn to the scene by curiosity only. The other car had disappeared.

Sears pulled Thor into the car, slammed the door and lifted it immediately. It had been stripped of all communication devices, the extra sun-battery and all weapons. Thor made several attempts to learn exactly what had taken place on the field, but Sears was uncommunicative; he had reached the scene too late to assist Erik, he insisted. The car was already in the air, he said, and he had not used his gun on the crowd for fear the Northerners would destroy the car Leonard had left—which would leave them at the mercy of the Northerners. Instead, he ran back to get Thor, and Irenie had followed him.

He showed signs of considerable strain and Thor did not press him further. For one thing, in order to find their way back to the Shining City it was necessary to follow the shoreline of the lakes, but not to allow the car to drift over water because the battery might become exhausted at any time. When Thor came to a full realization of their predicament he relieved Sears at the controls; but due to his lack of skill, the car drifted, rocked and oscillated.

In less than a turn of the telechron, Sears rose impatiently from his improvised pallet of coats and took the controls from Thor. "We'll probably drift down into the Argonne Pit," he said sourly.

"The hot air will cause us to drift in the opposite direction," Thor pointed out.

"We'll drown in the lake, then."

"Not necessarily." Thor did not feel the cheer he tried to put into his voice. "These cars are buoyant; we'd float for days if we kept the cabin sealed."

"What would we breathe? Air-conditioning stops when the battery goes out."

"A searching party would undoubtedly find us before—anything happened."

"Without a broadcast from us how would they know where to search—even if anyone wanted to look for us?"

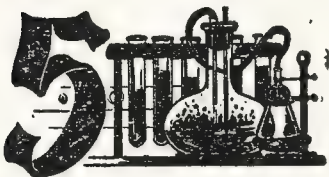
"The Eye Squad—the Board. They always send out searching cars when a scientist gets lost, and we are a little more important..."

"To whom?" Sears refused to shake his morose mood. "As Leonard used to say, *'The more important you are, the more people want your ash in an oven.'*"

"I suppose that's true," Thor sighed. The reference to Leonard plunged him into gloom deeper than that of Sears. He was now convinced that his son had deserted the Shining City; the evidence was overwhelmingly strong that Leonard had stolen valuable secrets, as well as property from the Shining City, for use by the Northerners—a capital crime. Also, abduction of an Eye Squad officer—if such it was—would call for the death penalty. By now Thor realized that he could not excuse Leonard's acts as boyish pranks or even as temporary unbalance. His son was motivated by lofty ideals—of that Thor was certain—but exactly what were these ideals that caused him to risk his reputation, his life, his father's position and the lives of his people in the Northland? Perhaps he wanted to put over some scientific point, some theory Gnurin would not accept, and had taken this means to bring the matter before the Board in a dramatic manner.

This might account for his theft of communication equipment; he had to take the other car in order to obtain the fresh batteries and additional supplies. And he had to take Erik with the car. Or, perhaps he had abducted the Eye Squad officer in order to gain a bargaining point. Thor was not satisfied with his attempts to rationalize Leonard's actions, but he could not bring himself to regard his son as a willful wrongdoer.

What could he say to the Board in his report? How could he present the facts in a light that would not be too unfavorable to Leonard? Most important, there must be no conflict between his presentation of facts and that of Sears'. Sears' testimony would clear Thor of all blame in the matter, and his, in turn would clear Sears. That is, if he did not mention Irenie's hysterical outburst. He tried to find a way to bring up the subject of testimony to Sears, but the officer's clamped jaws and taciturn frown discouraged conversation. They rode in silence for almost a turn of the telechron.



WHEN THEY came in view of the sky glow over the Shining City, which rose like a huge and misty moon before them, Sears, relaxed somewhat, but not until they were on the landing platform did he unclamp his set jaws. "The worst is ahead of us." A new anxiety furrowed his brow, and there was something of a plea in his eyes as he turned to Thor. "Explanations will be—most difficult, sir, but for your protection I am going to report that we were together the entire time in Superior City."

"I believe that is right, Captain." Thor chose to manipulate his memory rather than his veracity. "We landed in a field near town, went to the home of my former wife, where Leonard was most apt to be, leaving Erik Four-Four to guard the car. Leonard was not in the house; we heard a commotion in the direction of the field and we ran back, only to see our car in the air. How many men would you say we could see in the car through the viewing windows, Captain?"

"Five or six," Sears replied in a matter-of-fact tone, "among them Leonard and Erik. This stripped car was in the field nearby; we made a run for it and got in before the Northerners attacked—didn't use our guns on them for fear they would destroy the car."

"We came direct to the Shining City by the shortest possible route because we had only the battery that powered the car and we didn't know how nearly exhausted it was."

While they rehearsed their recital the landing platform descended into the sky station. Thor had barely finished speaking when the car door was pulled open violently from the outside and the nozzle of a gun appeared in the opening.

"Unscheduled flight, unannounced landing!" a voice behind the gun barked. "Alight and give an accounting."

It was a full turn of the telechron before the Eye Squad officers at the sky station released them. It was apparent from the type of questions asked that they had been specially alerted to watch for Sears and Thor. Apparently, espionage reports on the incident at Superior City, had come in. Thor was sure the reports did not agree exactly with his and Sears' story, but it was also apparent the discrepancy was not great enough to cause particular concern at Eye Squad headquarters; the lieutenant in charge authorized the dismissal of Sears and Thor without consulting Elmer One-Eight-One.

Although Thor was numb with fatigue when he and Sears passed through the sky station, he noticed that the official car from Paris was in its stall. Had Anisse returned with the others? His heart beat with wild hope, even though he knew that she planned a stay in Paris.

At the station entrance Sears saluted wearily. "I assume my assignment to guard you is at an end, sir. Good rest."

Thor made his way through the sleeping city, the only passenger on belt cars and elevators. His footsteps echoed in the long, silent corridors; his own distorted reflection in glasteel was his only companion in the waiting room of the third level Ten North transfer station where he changed to the local stop belt car that served his apartment building. His apartment was tomb-silent. Leonard was gone; Anisse was gone. He wandered through the bare, cold rooms that he had shared with them searching for something, either of them might have left behind—a memento, a discarded garment or even a crumpled container. There was nothing; the cleaning attendant had removed everything that was reminiscent of both of them—even the fragrance of bath oil Thor had often noticed on Anisse's sleeping pallet. The pain of loneliness pressed in on him but he could find no relief. At length he bathed, put on his night robe and lay down on his pallet. The empty dark pressed in on him and a dull pain thudded in his chest. It was as though a band had been drawn tightly around it, compressing his lungs; he was not sure whether or not he slept.

"Awaken, men of Science." A strange voice filled the room, a woman's voice, rather pleasant, but too calculatingly cheerful. Frightened, Thor sat up on his pallet and looked around expecting to find a new companion. The voice continued, and he ascertained that it came through the outlet grille. "It is the hour of seven, sun time, and the day dawns, this one

hundred thirty-sixth day of the first glorious year of Science. You of the Shining City are being awakened to your tasks by the means that is used in the mother city of Prague..."

Thor scrambled off his pallet and went in to the shower stall to shut out the forced cheer of the female voice.

"...mother city of Prague..." The phrase brought to his mind a fleur-de-lis pattern and a flash of red beside it—Doctor Julian. So, Doctor Julian's city becomes 'the mother city' of the Band! he thought bitterly. The dull pain in his chest sharpened.

WHEN HE emerged from the shower his communication cabinet was buzzing insistently. He opened the control and the frightened face of Elmer One-Eight-One sprang to life in front of him. "Something terrible has happened, Thor! The third level, ten north transfer station, blown up, shattered! Two guards on duty were killed, as well as a hundred, maybe two hundred denizens, on their way to work!"

"Why," Thor stammered, trying to collect his thoughts. "I came through there not more than two turns ago! It was deserted, not even a guard!"

Doctor Gnurin's angry face filled another segment of the screen. "Why didn't you report to One-Eight-One upon your arrival, Thor? Where is Captain Sears? Why did you dismiss him? How do you explain the fact that it was *your* transfer station that was wrecked?" He directed the next question to Elmer's image. "Why did you call Thor before you called me, the President of the Board?"

"I was so excited I guess I forgot," Elmer answered contritely.

"A few denizens more important than *procedure*? You heard what Doctor Julian said yesterday about the importance of correct procedure if we're to synchronize in the Band!"

"The Band isn't going to mop up that mess on the third level, Gaurin," Elmer retorted with sullen resentment. "The Building Coordinator's got to get

an emergency crew there with the Unvalator to clear out the wreckage, and the Invalator to rebuild it. I've got an investigation to conduct, traffic to re-route..."

"Not until we've had a meeting, One-Eight-One! The Board has to find out why Leonard One-Two-Two was not brought back to the Shining City, and why—"

"That's got nothing to do with the emergency!" Elmer's face was redder than Gnurin's now. "It's up to the Police Coordinator and the Building Coordinator—me and Thor. Hold your meeting with Juno and Vivian; we've got work to do. Meet me at the scene of the accident, Thor." With that Elmer cut out.

"Accident it is now!" Gnurin shrieked. "Don't cut me out until you've answered a few questions, Thor Two-Two."

"Ask Juno and Vivian; I've got bodies to remove." Thor closed the control and turned away.

"I can bypass your cutout! Come back here!" Gnurin shouted from the screen.

"Talk to the walls, doctor," Thor shot back as he hurried from the room.

Thor had seen the aftermath of many construction accidents—some in which entire crews of denizens had been mangled—but he had never beheld such gruesome carnage as confronted him at the wrecked belt station. Torn parts of human beings, oozing black blood, lay scattered thickly over all the floor that remained in the station, some of them straggling into the great hole in the center of the room. Groans and cries came up through the opening; here and there a living person made an animal effort to extricate himself from the mass of death. No rescue operations had been undertaken because of the unsafe condition of the structure. Supporting pillars had been broken, and the ceiling sagged threateningly, while the entire floor was mottled with cracks.

Thor grew faint and he took hold of

Elmer's arm to steady himself, then found he had to support Elmer. The Coordinator of Security had fainted.

IN LESS than a turn of the telechron Thor had the Unvalator and the Invalator as well as an emergency construction crew on the job. He ordered everything cleared, the dying as well as the dead, because salvage of any kind was impossible. In a few centiseconds all human flesh was rendered into cosmic ash for the Invalator's digestors. Reconstruction was slower, but in ten turns it was well under way.

Elmer took charge personally of the Eye Squad Control Board. For ten turns his orders crackled steadily through the compulsion channel to all the City. First it was necessary to re-route traffic and call up emergency crews. Denizens who were to have been relieved by those who were killed in the blast remained at their posts until replacements were recruited, and some of them required resuscitation. Doctor Vivian had to be instructed to supply rations of hot food and stimulants to the emergency crews, then before long it was discovered that Social Engineers were needed to provide emotional anodynes to those incapacitated by terror, thus Juno was drawn into the disaster work.

There was nothing for Gnurin to do, however. For most of the emergency period he screamed at Elmer demanding a channel to call a Board meeting, or so Elmer reported to Thor when Thor entered Eye Squad headquarters after he had reconstruction work in progress. He was numb with fatigue, but dreaded to return to his tomb-like apartment.

Elmer turned from the Control Board. "It's terrible, Thor!" He threw up his hands in a gesture of despair. "I'd rather handle a hundred disasters than another day of Gnurin! If there was only some way— He keeps bypassing."

At that moment a skull-like head

popped out in a segment of the wall screen and Thor moved out of range. "I'll call in Band Police!" Gnurin shouted hysterically. "I've got to have discipline! Give me a channel to call a Board meeting or I'll notify Prague!"

"What's Prague got to do with us?" Elmer demanded sullenly.

"What does Prague have to do with us? It's just the mother city of Science, that's all! All cities of the Band must obey the wishes of Prague, and Prague would not tolerate laxity. What have you done to establish the blame for the explosion? What have you done to prevent recurrences of sabotage?"

"I've got my best man on the job," Elmer replied with frayed patience. "I called Captain Sears off his pallet to take charge of investigation."

"And *who* has investigated Sears? What assurance do we have that he is not in league with the saboteurs? After all, he was an associate of Leonard One-Two-Two, and he spent all day yesterday with the former President—who was, by the way, the last person known to have been in the third level transfer station before the explosion! Have you had an accounting from him? And what of the Eye Squad officer whom Leonard abducted? Have you sent out a searching party to locate him?"

"I'm doing all that is humanly possible." Elmer motioned to an Eye Squad Lieutenant in an anteroom and turned the Control Board over to him. "I'm going to get some rest—somewhere where there are no communication cabinets," he said to the Lieutenant. "Don't call me for six turns, even if the city blows up!" He motioned to Thor and led the way into an Eye Squad officers lounge.

Gnurin's scream followed them. "I'll have you brought up on charges!"

THE LOUNGE was quiet and dark, except for a night-glow light. Several Eye Squad Officers were asleep on bunk-shelves protruding from the wall. Elmer and Thor tiptoed into the room, found empty bunks and lay

down without removing their clothing. Thor slept the sound sleep of complete exhaustion; he was not sure how long he slept, but a brilliant light shining in his eyes awakened him.

The room was in confusion. Eye Squad officers who had been asleep were dressing hurriedly; others lined up before a weapon storage vault door, waiting for guns and reload capsules. Elmer, his hair uncombed and his blouse unbuttoned and his eyes puffed from sleep, stood in the vault dispensing the arms.

"What's wrong?" Thor asked as soon as he could gather his faculties.

Elmer did not hear the question. An officer in the line answered, "Emergency—the whole ground-level belt of eighteen, west."

"Explosion?" Thor guessed.

"Several explosions; denizens in a panic fleeing the city. We've got to stop them."

"Try to stop them, you mean," the man in front of him said with a cynical grimace.

"From what Sears says, they're so panicky they'll run right into our death rays."

"No telling what a denizen'll do. They're primitives—act like animals when they're scared."

Thor reeled under the impact of the news, and it was not until the fourth man had spoken that he realized the gravity of the situation. "I'll go out on the emergency belt car with the officers," he called to Elmer.

"Better not, Thor," Elmer advised him. "Gnurin's been howling all night. Zachary's on his way in a special car—may be at the sky station now. We'll have to have a Board meeting."

"But the emergency," Thor argued.

"Send an assistant. Renlow Sears is out there; he can coordinate emergency work."

The Eye Squad officers piled into a waiting belt car and it shot through the archway and quickly disappeared. Elmer closed the vault door, smoothed his hair and buttoned his blouse.

"Breakfast is on the way, but we'd better not wait for it. Gnurin and the others are in the Board Room."

They paused in the Control room to give orders to assistants, and while they were in communication cabinets an attendant brought a jug of hot stimulant and poured it into containers. Thor sipped the warming brew while he spoke to Cliff Davis, his first assistant. The stimulant revived him somewhat, though it increased his heart action which brought back the dull pain of compression in his chest. However, he had no time to dwell on his own pains.

Elmer emerged from the cabinet where he had been talking, his face ashen. "An unexploded bomb was found in the sky station some time last night. The guard took it to the laboratory for analysis. First I've heard of it; communications have been jammed."

"It appears to be organized sabotage," Thor pronounced gravely.

"Looks that way."

They stepped into the elevator for the Board Room. "I called Sears in to make a report to the Board," Elmer went on. "He's leaving Captain Seventy in charge at the disaster scene; main thing is to halt the denizens."

"Remember what Zachary told us? This sort of thing has happened frequently in other cities," Thor offered in an endeavor to rationalize the situation. "Probably timed for the Paris celebration; the plotters thought all important officials would be out of the City."

"That's not what Sears thinks."

Thor's heart skipped a beat. He didn't want to connect Leonard to the plot, but he thought he read the implication in Elmer's remark. "What does Sears think?" he asked at length.

The elevator door opened and they stepped out into the corridor that led to the Board Room. Zachary approached them.

"Later," Elmer whispered in answer to Thor's question.

"Gentlemen, gentlemen!" The marshal of the Band Police held out both hands in greeting. "Could you not hold up your emergency until my tenth son is christened with his genetic rating number?"

"Ten sons!" Elmer exclaimed. "You have an Eye Squad of your own!"

"The three eldest are Social Engineers!" Zachary's lips curled with scorn. He turned to Thor. "It is good to see you back safely from your expedition, my dear Thor, but I was indeed sorry to hear that it was a failure. Too bad about the Eye Squad novice. Risky business, this police work."



THEY STEPPED into the Board Room to be greeted by a blast from Gnurin. The diminutive scientist appeared more mummified than ever, and the gash of his mouth opened wider as he spoke. "You are tardy, Elmer One-Eight-One and Thor Two-Two—twenty turns tardy! The City has been blown up, the denizens are fleeing in terrified droves, but do you come to a Board meeting? No, you go chasing around doing the tasks of menials while strategy planning goes to—goes to—" He choked in anger, unable to finish the sentence.

"Goes to Hell," Zachary supplied.

"Hell!" Gnurin shrieked, "there's no such place!"

The marshal shrugged. "Opinions differ."

Gnurin fixed the marshal with an angry glare, then as if he remembered something important, he changed his expression to a grin that was almost ghoulis. "Thank you, Marshal Zachary for responding to my call; it is always a pleasure to welcome a representative of the Band." He moved to

the reception disc and opened the control. "The meeting will come to order. Thor of the genetic rating Two-Two will be allowed to sit in as Coordinator of Construction until such time as his status is definitely established. Now, if you will all be so good as to give your undivided attention I will proceed with my report. Elmer One-Eight One, the Board Room is *not* a sleeping chamber!"

Elmer sat up and blinked the sleep from his eyes. "Sorry, sir."

"My report is of an exceedingly grave nature," Gnurin went on as he drew a thick sheaf of parchment sheets from a portfolio.

Zachary rose. "Might it not be better, Mister President Pro-Tem, to hold an executive session in order to evaluate the material in the reports? I assume there are others beside yours. We must remember that many operations in the City are on an emergency basis and it might seriously disrupt vital work if we keep the compulsion channel open for long."

"His point is well taken!" Juno added quickly.

"Zachary is right," Vivian put in.

"Let's have it that way." Elmer was awake now.

Thor said nothing.

Gnurin's face grew livid. "Every word of *my* report is important to every scientist and every denizen in the Shining City!"

Zachary held the floor. "I must beg your pardon, Mister President Pro-Tem, but the Band frowns on undigested reports. I am sure you do not wish to arouse the displeasure of leaders of the Band."

Gnurin deflated. "Our procedure will be altered to suit the pleasure of the Band representative; a digested report will be given later over the compulsion channel." He cut the reception disc control and seated himself at the conference table. "Now, with your permission, Marshal Zachary, I will proceed with my detailed report."

The marshal nodded solemnly, and

Thor smiled to himself. *The cat toys with the squealing mouse, he thought.*

Gnurin's report was detailed indeed. It began with a listing of all missing scientific data which he implied had been taken by Leonard. "It might be asked at this point," he interjected, fixing Thor with an insinuating stare, "*where* the suspect stored the stolen data before he disappeared with it. About the only possible answer is that he stored it in his quarters, which he shared with his father. Since the father was a Board member, these quarters were not subject to routine inspection by the Eye Squad. And it might be asked what form of eye disorder afflicted the father to make him blind to the suspicious behavior on the part of his son!"

"I object!" Elmer bellowed.

"And well you might object to these exposures!" Gnurin snorted. "One of *your* men, your most trusted Captain of the Eye Squad, Renlow Sears, whose genetic rating has never been tabulated, was a frequent caller at the quarters of the suspect. May I ask why, in view of this fact, Captain Sears was put in charge of the expedition to apprehend Leonard One-Two-Two? Might *that* not answer the question of *why* the mission failed so miserably?"

"Is this a trial?" Elmer demanded, "And if so, *who* is on trial?"

"It is a report on the sabotage of the Shining City," Gnurin retorted blandly. "The chemical analysis of the unexploded bomb taken from the sky station was manufactured from sulphuric and nitric acids, the data files on which were taken by Leonard One-Two-Two."

"That proves nothing whatsoever!"

Thor exploded. "It has never been established that my son took those files. I never saw anything suspicious in his room; he never carried portfolios or packages of any description. It's true he stole a hovering car—two hovering cars—and certain equipment; but as to his stealing research for-

mulas, and especially formulas that have to do with the current bombings, that is pure guesswork, an accusation which is apt to be proven false! Isn't it more reasonable to assume that someone else who had access to those research files took them and is now using the information in them to manufacture the bombs right here in the City?"

"What is this?" Elmer shouted, "A guessing game? I suggest we get a few facts in front of us before we arrive at any conclusion!"

ZACHARY clapped his hands. "Bravo, Elmer! Spoken like a true police officer! Doctor Gnurin, may I suggest that you take your bombast back to the laboratory and analyze it for factual content!"

"Concur!" Elmer shouted.

Gnurin puffed up for a blast, but before he could speak Captain Sears burst into the room. "I have information of great importance," he announced. He showed considerable agitation and glanced nervously from Gnurin to Elmer.

"As Coordinator of Security I will take your report at Eye Squad headquarters, Captain Sears." Elmer rose and moved to the captain's side.

"Not so fast, Elmer One-Eight-One! I insist that the officer's report be given to the assembled Board!"

"Concur!" Vivian had vacillated toward agreement with Gnurin.

"One moment," Zachary interrupted. "A Board meeting at this time is not in order. I have come here, at great expense to the Band, to assist in solving a police problem in your City; I did not come to listen to opinions or to give lectures on procedure. I operate by Band rules. If I'm not permitted to follow them, I'll return to Prague at once."

"And your rule is—?" Juno asked the question.

"That all evidence pertaining to the security of a City of the Band be gathered and summarized by the Eye Squad. The Board may evaluate it at

such time as the Eye Squad submits a report."

"Meeting adjourned!" Gnurin tossed the parchment sheets into the air and stalked angrily from the room.

Captain Sears had remained standing beside the door. As soon as it slid shut behind Gnurin he spoke. "Use the rear elevators! A bomb has been placed in the Boulevard elevators. It may explode at any centi-second!"

"Stop Gnurin!" Juno shouted.

Sears did not move. "He will not endanger *himself*."

Stunned, everyone in the room stared at the captain, who waved his hand to open the door. Zachary, nearest the door, rushed out into the corridor, then turned back to announce, "He is taking a *rear elevator*!"

"But he always—" Doctor Vivian began.

Sears interrupted him. "Where is his laboratory?"

"No! Not Gnurin!" Vivian covered his face with his hands.

Juno shrugged. "I thought all along he acted guilty."

"Let's not jump to any false conclusions," Elmer warned. He turned to Sears and asked, "Have you apprehended any suspected saboteurs, Captain?"

"More than a hundred are in the Compound and more coming in. I've assigned five men to question them; can't spare more."

"Good work!" Elmer returned.

They were all in the corridor walking toward the rear elevator bank. Marshal Zachary, ahead of the rest, had summoned a car. Thor's mind was a-whirl but he had not found voice for any opinions, however, he noticed that the compression in his chest had eased and his step was lighter. *Gnurin, after all!*

AT THAT moment there was a dull thud somewhere below them in the direction of the Boulevard. The floor swayed, and a splintering crash

followed. Everyone staggered, and Juno screamed.

"The explosion!" Sears announced calmly. "On the ground level; those who planted the bomb couldn't reach the Sun Converters."

Cries and screams came from the corridor behind them as doors flew open and white-clad research scientists ran out. Sears turned and raised a hand authoritatively. "There is no danger!" he shouted. "Merely a drill. Go back to your work, but use the rear elevators when you leave the building. The Eye Squad has taken over the others."

Slowly, and with some grumbles of suspicion, the scientists returned to their work.

When the corridor was cleared, Zachary opened the elevator door. "Do you have the guilty ones?" he asked Sears when they were inside.

"All in the Compound; some have confessed. We will soon have the situation under control."

"Are you going to arrest Gnurin?" Doctor Velvet asked.

With a glance at Elmer, Sears shrugged.

"When guilt is established we will arrest the conspirators, no matter what their position," Elmer replied; "right now we will proceed to question the suspects."

"A suggestion," the marshal offered; "all Board members should remain in quarters and direct their activities by communication cabinet for the time being. You will be called when the Eye Squad has prepared a report."

"What about Gnurin?" Velvet asked.

"None of you should contact him." Zachary turned to Sears, "I assume that certain—necessary alterations—have been made at the controls to his communication cabinets."

Sears smiled. "We are leaving nothing to chance."

On Zachary's advice, Thor went first to Eye Squad headquarters where he dictated to a spool a full account of the expedition into the Northland in search of Leonard. He paused at several points, not sure just what he had told the Eye Squad at the sky station.

"We made our way to the home of Leonard's mother, after asking directions from some townspeople," he dictated carefully. "The front door was open and we went through the house, finding—finding—" He realized the repetition would sound suspicious, and he stammered over the next words, "—my former mate, Leonard's mother was in the kitchen. She informed us that Leonard had gone..."

Thor's heart pounded heavily; the pain in his chest was severe and perspiration dripped from his forehead. He remembered too late that, while they were being questioned at the sky station, Sears had stated they had searched Irenka's house; also he had later given the information that there were two stories to the house. Neither had mentioned seeing anyone in the house, leaving the impression that their conclusion about Leonard being gone was the result of their search. He wanted to re-dictate the spool, but he had been given only one. The discrepancy was nothing serious, he told himself; they always showed up in several truthful versions of an incident. Besides, the emphasis was not on his expedition to locate Leonard, but on finding the persons guilty of sabotaging the Shining City. In spite of his rationalization he fretted, an inner, physical fretting that affected all his organs and aged him years in a day.

Gnurin is guilty, Thor told himself over and over as he sat in his apartment waiting for a summons to the communication cabinet. Gnurin craved the adulation of underlings; he wanted power and prestige, and he had plotted a disaster in order to get them. Undoubtedly his madness had

been the cause of Leonard's behavior. Probably, Leonard would return to the City after the doctor's execution. These thoughts with which he sought to console himself did not dispel the pain in his chest.

THERE WERE twenty more explosions in the next four days, and one of them disabled a Sun Converter. The use of power and light was curtailed severely, and the dim light aided the saboteurs. By now, the denizens were in complete panic; their bodies piled high at all the City butlets where Eye Squad officers had stopped them. Yet many escaped. They dived into the lake; some drowned and some managed to swim far enough south to reach safety. They crawled through holes blasted by bombs in the City's outer wall. They stole guns and left the corpses of Eye Squad guards atop of the denizen dead.

The City was almost paralyzed. Elmer remained at the Control Board fifty turns of the telechron—two days—without relief other than for a few centiminutes at a time. He closed the research laboratories and the Specialty College and put scientists and students at the dials. He directed the Unvalator crew to clear away wreckage and carnage, but the Unvalator had to move too rapidly to permit rebuilding with the Invalator. The released cosmic ash from the Unvalator blackened the bright buildings and clogged air vents. Columns of smoke rose up and mingled with the steam from the Argonne Pit, and a cloud, like a pall of black gloom, hung over the Shining City.

Suspects arrested by the Eye Squad overflowed the Compound, and Elmer ordered the empty laboratories and schoolrooms converted into jails. Most of the suspects were research scientists, though some were denizens, and a few were Eye Squad guards. Not all the research scientists who were suspects came from the department under the supervision of

Gnurin; some were food chemists, and this gave rise to a new wave of fear. However, Doctor Vivian remained on duty to inspect each batch of food, and no casualties resulted from poisoning.

Zachary and Sears supervised the questioning of the suspects, and they obtained a mountain of confession spools, many of them conflicting. Some claimed to have made the bombs themselves, though none knew the exact formula. Most of them said they had gotten the explosives from "a stranger." None had a very well-defined reason for participation in the sabotage. A plot there was; of that the marshal was sure; but he could not pull out the threads of it.

"I'm completely baffled," he told Thor in a cabinet conversation. "We have plotters but no evidence of a plot."

"Have you a complete check on all of Gnurin's contacts?" Thor asked. "He uses the bypass more than the Control Board, you know."

"Every hole is plugged," Zachary assured. "He's hermetically sealed in his apartment—and screaming his head off. If he's the brain behind this thing, he must have had it all laid out in advance. But why? There is no why! If he were guilty he would be making demands by now."

Thor pondered a moment. "What's he screaming about?"

Zachary threw up his hands in a gesture of disgust. "Meeting, meeting, meeting! Just wants a sounding board!"

"Maybe he intends to spring his coup in a meeting."

"My dear Thor..." Zachary rolled his eyes thoughtfully and his image faded.



THOR WAS asleep when the compulsion channel signal buzzed. His first thought was that the Board had assembled for a meeting without him. He rose from his pallet and stumbled

into his study. The screen was already glowing; he seated himself on the bench and waited for the intensity to increase. He waited twenty, thirty, fifty centi-seconds, but still the screen continued to glow only faintly and no voice came through the grille. His mild alarm heightened into terror. Was the City's power supply so low that communication equipment could not operate? If so, belt cars and elevators wouldn't run, doors wouldn't open, the air circulation system would fail. He felt as though the walls were pressing on him, and an animal cry rose in his throat.

Then a voice came through the grille. It was clear, though faint. Thor had heard it before, but he was unable to recall where, or under what circumstances, and no image came on the screen to identify the speaker.

"Are you tired of bombs, Shining City?" the voice asked. *"If not, we have plenty more which can be delivered to you by means you can never detect. If so, flash the blue signal light on top of your Sun Converter—while you have Sun Converters!"*

There was no more; the glow faded from the screen, and Thor sat very still in the thick dark, not sure whether the buzzing in his ears was a signal or an echo of blood rushing to his brain.

The buzz came from the communication cabinet. Thor opened the control and looked into Elmer's blanched face. "You heard?"

"Of course."

"How did he get the compulsion channel number?"

"I've no idea, in fact, I can't quite place the voice. It's one I heard—recently, I think."

"Is that the truth, Thor?"

"Of course; why should I tell you anything else?"

"You'll have to come to Eye Squad headquarters immediately, Thor. I'm summoning Zachary."

"Very well, but I don't see why—"
Elmer had cut out.

While he dressed Thor fumbled in

his memory for the identity of the voice. *"Flash the blue signal light."* He had heard that instruction recently. It was— It was—Sears' instructions to Erik... Erik Forty-Four! The voice was that of Erik!

By the time he reached Eye Squad headquarters, he had answered one of Elmer's questions. There was but one source from which Erik could have gotten the compulsion channel number—from Leonard. His mind rebelled against further deductions, and when he presented himself before Elmer his clothes were damp with cold perspiration.

Marshal Zachary was already at headquarters and he beckoned Thor into a questioning booth. He held four spools in his hand and he did not smile as he greeted Thor. "There are a few discrepancies," he began.

"Yes, I know," Thor hastened to say. His mouth was dry and his voice sounded strange to his own ears. "I can explain."

"Please do; the future of the Shining City may depend on your explanations."

"Naturally I didn't know at the time I made the statements that the matter would be so important, but you see—" He moistened his lips. "You see, it was dark on the field. There was considerable excitement, and I was—well, I was frightened. And surprised, I think—yes, surprised. Terribly hurt, too, over what Leonard had done. Perhaps I didn't see clearly, and later when Captain Sears said—I felt his vision would be more accurate than mine. Trained man, you know."

The next question came like a blow to the face. "Did Sears coach you on what to say?"

"No... Well, not exactly. We talked it over, but my statements were based on my own observation, perhaps clarified a little, so that I understood my fleeting impressions."

"That is all for now, Thor." The marshal rose and smiled down on Thor. "This has been very difficult for all of us—you most of all. Have

pity for me, Thor; I have ten sons to worry about!"

Thor sighed with great relief. "It is good to know someone like you, Zachary."



WHEN HE reached his apartment he tumbled onto his pallet and slept more soundly than he had for several nights.

"Awaken, men of Science. It is the hour of seven..." Thor roused, angry at first at the sickish-sweet voice that poured through the grille, then relieved. It was the first time in four mornings that the record had been played, and it indicated that the City was getting back to normal. Soon, Thor thought as he stretched on his pallet, everything will be cleared up.

"Yes, awaken men of Science! It is time you awakened!" Startled, Thor sat up. Another voice cut in over that of the morning greeter. Leonard's! His words were clear, easily sorted but from those of the young woman's, and they continued sharp crackling over the background of music that completed the greeter's spool.

"The doggerel to which you have just listened will soon be stilled. Men of vigor and men of vision will not long follow the foolish patterns laid down for you by the intellectual dwarves who seek power for the sake of power alone! Arise, men of Science! Arise, men! Shake off the shackles that bind you to your narrow bands of glasteel, to your vats of tasteless yeast-food, your communication cabinets and your barren pleasure women! I speak to you from the wide prairies where freedom still exists and men stand tall with pride. This freedom is yours, if you will but take it! If you

will but rise and stretch and feel your strength, men—men, not political cuckolds betrayed by depraved weaklings who seek to enslave you!

"Arise and listen to the strong voice of free wind, the snap and roar of thunder over the plains! Lift your faces to the cooling rain and drink with the trees and grass. Throw open the doors of your prisons, men of Science, and let all the world share your secrets. Let your neighbors build houses not just of sawed lumber, but of glasteel! Let us sit down with you around your conference tables and exchange evenly—our wheat and berries and fruit, our corn and cheese and animal-meat—the products of our toil for the products of your toil!"

"We have demonstrated to you that we are strong. We have demonstrated to you that our ways can win. Think well, men of Science. Will you die in the shambles of your artificial world, or will you throw open your gates and live in the freedom we offer you in exchange for some of your science?"

Thor was trembling violently when Leonard ceased speaking. Pride swelled in him, yet fear gripped him. That was the son born of Irenka, the strong—his son! And there was the plot against the Shining City. For a fleeting moment, he wished that it were he who was in league with Leonard. If he were, he would answer that call by flashing the blue light on the signal towers above the Sun Converters.

At any moment Elmer or Zachary will summon me, he thought. He waited in his night robe beside the communication cabinet. The telechron dial turned slowly—ten centiminutes, twenty, thirty. Perhaps only underlings were on duty at the Control Board and Elmer would have to be summoned. A turn was completed, still no signal. Perhaps Elmer and Zachary were so exhausted that they had left word they must not be disturbed.

Thor dared not go into his shower

stall for fear he would not hear the signal. He shaved and dressed—he'd have to be ready when the summons came. His breakfast lay in the slot. It was cold now. The sight of the slimy yeast mass and the skum-covered greenish liquid nauseated him. Quickly he stuffed everything into the discard chute; if only he had a cup of burnt-wheat coffee!

His thoughts were only of the immediate. No reflection or contemplation was possible, and as the centiminutes turned off the telechron dial his anxiety grew. When two turns were completed, he realized that the silence was something more than mere routine delay. Undoubtedly by now he was "hermetically sealed" in his apartment. In that case his innocence would be established. Here a thought sent the blood pounding to his head. Would Leonard try to contact him? He would have to face his son, guilty of treason, while the Eye Squad observed, made records and depictions for future analysis. If he revealed the slightest hint of sympathy they would—

No! Leonard was an adult. He had chosen to betray his City as well as his father; he deserved no pity. He must be destroyed like any other enemy of Science! Thor paced and prepared his speech of denunciation to Leonard, mumbling some phrases aloud. Then he stopped himself. If there were listening devices in the walls the Eye Squad would think he had some secret means of communication with Leonard! Perspiration poured off his face, soaked his clothing. He loosened his collar, removed his jacket. Had the air cooling system failed? Was he sealed in a death chamber? The walls pressed in on him, the silence rang in his ears and he gasped for breath.

Then the signal buzzed. Trembling seized him as he opened the control. Did it mean the reduction oven?

It was Gnurin, grave and calm. "Report at once to the Board Room, Thor," was all he said.

The Board Room—only the Board Room! Thor laughed hysterically. Of course they knew he was guilty of nothing! He would speak to them, tell them how much he revered the Shining City, and he would denounce the traitor who was his son. Soon everything would be cleared up.

●
WHEN HE entered the Board Room, Thor was in a state of elation that was almost hysteria, but his spirits were soon depressed when he saw the faces around the conference table. All were grave. Gnurin sat quietly on the President's bench, a very deflated and composed Gnurin. Vivian's face was puckered with perplexity, and Juno appeared bewildered. Sitting at the foot of the table, between Elmer and Zachary, was a stranger, a swarthy man with iron gray hair, heavy overhanging eyebrows, and a long, thin face with a straight line of a mouth. He and Zachary were studying a sheaf of parchment charts. No one spoke for several centi-seconds. Gnurin glanced questioningly at the stranger when Thor entered, and at length the stranger rose.

Thor noticed that he walked with a decided limp; his left leg was several centimeters shorter than his right, and he grimaced as though each step caused him pain. Yet there was a strange fascination about the pain-twisted face. His eyes were large and expressive, brown, flecked with gold lights, almost feminine in their beauty. *Here is a man who has thought deeply, seen far*, Thor thought.

He stood beside the President's bench and placed a hand on Gnurin's shoulder as if to steady himself. "We will dispense with formalities and with preliminaries," he said, speaking with slow emphasis. His was a deep, though somewhat nasal voice, well-modulated, trained for public speaking.

Thor closed his eyes and saw in his memory a fleur-de-lis pattern.

Doctor Julian!

"The reports which Marshal Romain Zachary have given me about members of this Board are indeed alarming. We have handled together many serious situations in cities of the Band, Romain and I, faced many a crisis. But we still have a Band, and it is my hope that the Shining City will remain in it. In the first place, there must be some replacements on this Board. Romain knows better than I who is capable of filling these important positions, and I will rely on his judgment in the matter. But I sincerely trust that those of you who remain will alter your attitude toward security. Faith is a beautiful attribute of character—in literature—but it has no place in the emotional make-up of one who occupies a position of responsibility in a city of the Band. We all love a trusting child, but if that person remains trusting after he has attained the stature of man, then he remains a child.

"The Band needs adults, men and women capable of objective thinking, capable of detachment, capable of exercising judgment which is uncolored by emotion of any kind.

"In the first place, your President Pro-Tem, Doctoc Gnurin One-One-Seven, throughout this entire crisis has shown an admirable amount of healthy suspicion. But perhaps the reason he did not convince the rest of you was that he erred in presenting his suspicions in a highly emotional manner. I sincerely trust that he has learned the lesson that will henceforth make him a useful Board member.

"The report that Romain has given us on the Eye Squad of the Shining City is most shocking indeed, and the condition was brought about by the mental attitude of the Coordinator, Elmer One-Eight-One. This plot against the City, and the wave of destruction that resulted, would never have gotten beyond the initial stages if One-Eight-One had properly distrusted the men in his department. He

should have turned a critical eye on Captain Renlow Sears when he offered to assist in the capture of a man with whom he had been closely associated. *Never accept the help of volunteers*—isn't that a rule of the Band police, Romain?"

Zachary nodded affirmatively. "One moment, Julian. Thor Larsen came in late and does not know that Captain Sears has been executed as the coordinator of the sabotage plot." He turned to Thor, who was reeling under the impact. "His full confession enables us—shall I say—to close the case."

THOR FELT faint and clung to the table to hold himself erect. He was unable to speak.

"At this point," Doctor Julian continued, "I want to touch upon the case of your former President, Thor Two-Two. The relationship that was allowed to exist between Two-Two and his son invited trouble; the social scientists of the Band insist upon separation of parents from their children. The emotional fixations that are inevitable where sons or daughters remain with their parents are always detrimental to the community as a whole. The Social Coordinator, Juno Sixty-Seven is solely at fault for allowing this condition to exist. As it developed, that was the crux of the whole problem in the Shining City. I had had some reports on this matter, but I was loath to interfere in the affairs of any city of the Band. I felt sure—and I blame myself for this inexcusable faith—that things would eventually right themselves."

Anisse did report to Julian! Thor found breathing even more difficult.

"Now I come to Doctor Vivian, the Economic Coordinator. I have eaten some of the food prepared under the direction of this worthy scientist—"

Vivian puffed with pride.

"—and I find it the worst offense of all!"

Vivian slumped and dropped his head.

"We all heard the brazen plea of the traitor, Leonard Larsen. On what did he base his plea to the scientists and denizens of the Shining City? Food! *'We'll give you corn and berries and animal-meat,'* he said. What healthy individual, be he ever so loyal to Science, could fail to heed such a plea if he had been eating three meals a day from Doctor Vivian's yeast-vats? Why, if I had eaten Vivian's gook for long I, myself, would have been willing to take up a javelin with the Northerners!

"Seriously, my fellow-scientists, if we are to have loyalty to our cities, we must have proper food, not just nourishment with the correct molecular vibrations to sustain our bodies, but food with flavor—flavor that will stimulate our imaginations, give us the zest for living!

"As Romain knows—and I believe I mentioned it to Gnurin in Paris the other day—it has long been a dream of mine to *seal* our cities—build walls around them so high and so thick that no enemy can penetrate them, and cover them with a roof to protect our scientific world from the vagaries of climate, from the harmful airborne bacteria which now causes us needless suffering and brings untimely death to our scientists.

"The invention of the Unvalator and the Invalator brings this dream closer to realization. Within sealed cities, Science can control our entire environment; we can control population... It's still a dream, but as Romain knows, I am one to implement my dreams. Sun conversion, photosynthesis, the Unvalator and the Invalator—all these are steps on the way, and soon, within a few years, the Band will become the Sealed Civilization of Science."

All sat agape with wonder, all but Thor. He passed a hand over his brow. *No more sunlight on the water... no trees bending in the wind... no blaze of stars overhead at night,*

no summer storms with lightning darting out of the blackness... a tomb for the living—the Sealed Civilization!

JULIAN continued. "And now for more practical matters. Your first problem in the Shining City, now that the conspirators within have been dealt with properly, is to discourage this clamoring horde at your gates. Drive them away or wipe them out. You have the means; Doctor Gnurin gave us an outline of possibilities in his speech in Paris.

"I propose that Thor Two-Two, the father of the ringleader of this band, take the disc and speak on the compulsion channel so that all the City as well as the ingenious ringleader may hear, and make the proposal." He turned to Thor. "You understand, of course, what is required." Julian limped back to his seat.

Thor rose and steadied himself by placing his hands on the table, and Gnurin opened the reception disc control.

"I propose at this time..." Thor moistened his dry lips... "that the Eye Squad equip a large hovering car with the Unvalator... and proceed to wipe out the nest of conspirators... at the Argonne Pit! I believe... that is all."

He sat, heavily, and Gnurin rose. "You have heard the proposal of Thor Two-Two; what is your pleasure?"

"Concur!"

"It is so ordered. The Eye Squad Coordinator will proceed to carry out the instructions of the Board. The meeting is adjourned." Gnurin cut the control.

Thor stood. The room whirled around his head and his knees crumpled. As he sank down he caught sight of the doctor's skeletal grin. There was mockery and triumph in it, and Thor knew that he had been replaced as President of the Board of the Shining City.

"Perhaps the birds do not choose to live in this great cage..." Thor was not sure that he had spoken. He

opened his eyes and saw that he was lying on a pallet in a questioning booth at Eye Squad headquarters.

Zachary bent over him. "You were saying, Thor—?"

"I don't know what I said." He sat up and looked into the face of the only friend he felt he had left. "I did my best, Zachary; it was a matter of honor."

"An obsolete word, 'honor'; the world of Science never uses it."

"I see. It's the reduction oven now, I suppose."

"Patience, my dear Thor, patience; at the moment the ovens are terribly overcrowded."

"May I go to my apartment?" *Perhaps Anisse had come back to the City with Julian.*

"Sorry. Rules."

"Then where—"

Zachary shrugged. "We are very busy, Thor. You must find ways to amuse yourself until we are ready to go further into your case. Perhaps you would be so good as to look over the reconstruction project at the western wall? The work there is behind schedule." With that he hurried from the room.

THOR LEFT his uniform jacket on the pallet, walked out of the room, down the corridor and took an elevator to the transfer station for the westbound belt cars. An emergency construction crew was loading into one, and as he had so often done, he climbed in and sat amidst the construction tools that smelled of raw earth.

The car stopped at the project and the men took their tools and filed out. Cliff Davis, the overseer, came up to Thor. "We're almost through with this job, sir."

"Take your time, Cliff." Thor walked through the hole in the wall, past the Eye Squad guard who had seen him with the overseer, and took a path that led through the shrubbery.

The path, which apparently had been beaten by fleeing denizens—or

by the saboteurs—went straight into the bronze glow of sunset which lingered over the blood-red glare of the Argonne Pit. The pain in Thor's chest was intense, but he continued to walk westward.

Dusk had settled down when he came to a stockade around a cluster of tents. Here and there among the tents a dying campfire flared feeble competition to the glowing pit. The encampment was breaking up. Men scurried to and fro loading rolls of bedding and bundles of supplies into horse drawn wagons, some of which were already on the move.

"Leave the rest for the Unvalator!" The voice was Leonard's.

A dog barked and a sentry ran back to the open gateway of the stockade. "Who goes there?"

Thor gathered his strength and answered, "Thor Larsen!"

"Thor Larsen!" The name echoed through the camp, and several other sentries appeared.

"The President of the Shining City?"

"Ya! I have come to my son, Leonard."

"Leonard Larsen!" Again the echo.

Several dogs were barking now, and one ran out, snarling. The sentries closed ranks and Thor saw a row of javelins outlined like sharp pickets of a fence against the glare of the Pit. Then a man broke through the line, javelin poised. He hurled it, and Thor felt the point drive into his chest. The pain expanded, like a bud bursting into flower, and petals of red spread over the white front of his blouse.

A flare from the Pit threw a harsh light over the scene, and Thor saw a man taller than himself with hair like moonbeams and eyes the color of wood violets. The man smiled grimly and spoke to the sentries. "Leave that, too, for the Unvalator!"

As Thor crumpled around the flower of pain, he gasped to the retreating figure—"Leonard!"

SCIENCE IN SCIENCE FICTION

A Series Of Special Features
By James Blish

4

The Psychological Story

WHILE IT is true that psychology is not a science, in the exact sense, but rather a sort of exceptionally confused branch of medicine, it is a field which has fascinated writers of all stripes ever since the discoveries of Freud, and it was natural that it should appear in science-fiction stories sooner or later.

In the earliest days of science-fiction, no real interest in psychology was possible, simply because psychology is the study of the personality, the character, the mind, the emotions—and in early science-fiction tales, the people in the stories had none of these things. They were stereotypes. They looked alike, they thought alike, they acted alike; the villain was villainous, the heroine was pure and stupid, the hero was brave and stupid. (The heroine was often a Scientist's Daughter, but the Scientist was usually stupid, too.)



Psychology comes in when an author considers why his characters behave as they do.

No writer begins to take an interest in psychology until he begins to take an interest in his characters as people—as unique individuals with quirks which are theirs alone. It is only at that point that he begins to ask himself the deeper question of *why* people act the way they do, and then begins to analyze why the person he has created in his story has to act the way he does. The explanations he offers may vary widely; but as soon as he begins to offer such an explanation he is trespassing on the marches of psychology.

To take a very vivid and beautiful example, look at L. Ron Hubbard's novel, *Fear*—an extremely interesting story, not only on its own merits (which are considerable) but because many of the attitudes toward psychology which it contains foreshadow Hubbard's later theories. We won't talk about Dianetics here, however; instead, let's look at the story—not as a fantasy, but as a psychological horror-story.

A college professor, named Jim Lowry, has murdered his wife and his best friend because he suspects them of infidelity towards him. The shock deranges him so greatly that his mind cannot bear to acknowledge what it is that he has done; instead, it sets up a series of fantasies which, terribly though they frighten Lowry, are not quite as horrifying as the real truth would be to him.

This is an old and sound psychological theorem from the Freudian analysis of the function of dreams; it comes from Freud's notion that the mind contains a censor which automatically shields us from thoughts which might otherwise hurt us. In Lowry's case, he has been made easy pickings for a series of demonological fantasies by the fact that (1) he has been thinking a lot about demons, in order to write an article about them, and (2) he doesn't believe in demons, so that his fantasies are less dangerous to him than his murders, which he

knows *are* real, and therefore really dangerous to him. He has been discharged from his college post for the article, so that gives him a reason for suspecting that demons really have done him some small damage, in an indirect way—and that's all the excuse his mind needs to begin substituting phony demons for real dead people.

But his mind cannot stop there. Demons aren't a satisfying enough substitute. If he is to be made to believe that his wife and her supposed lover are not dead, then his fantasies must include both these people, *alive*. Yet, at the same time these people really are dead, so a whole series of subordinate fantasies have to be invented to explain why their deadness doesn't matter. To give a single example:

Since Lowry's wife is dead, she can neither cook nor serve dinner for him; yet he must imagine that she has. Imaginary food will not sustain him; he must have real food; he has to eat, actually *and* in the fantasy, at a diner. Therefore he invents a subordinate fantasy: when he sits down to eat at home, his plate moves. This upsets him so he has to go to the diner. An illusion within an illusion.

There are a whole series of these subordinate illusions in Hubbard's story; all bearing a precise one-to-one relationship to the actual facts of the double murder. The bodies are in Lowry's cellar, so there is a long flight of stairs, bats, and cobwebs in the fantasy. There's a demented cat in the cellar that scrabbles at the coal under which the bodies are hidden; so in the fantasy there's a gigantic cat which nearly kills Lowry. Lowry has murdered, so there's a hangman in the fantasy. Lowry and his wife were childless, so there's a child-who-is-not-a-child in the fantasy. Lowry suspects that his friend was perhaps not really his wife's lover, after all, so this suspect cavalier is represented in the fantasy by a hollow suit of armor (for-

midable, but without real substance). Lowry knows that everyone in the world is potentially a danger to his fantasy, so his fantasy terminates in a sequence where he is the only person really alive in the world.

And so on. It is all quite fascinating, whether or not you happen to agree with Hubbard that the fantasies of insane people dovetail quite so neatly with events in the real world, or so literally; as a story, *Fear* is an intellectual achievement of the first magnitude, and perhaps the most intensively, basically psychological story in the entire literature of fantasy.

It is also interesting, of course, because it is based on a theory of the operation of the mind which is personal to Hubbard. Most science-fiction writers who have taken an interest in psychology have taken the more expectable path; that is, they have adopted one or another of the theories which are common coin among psychiatrists and other members of the psychological professions.

HENRY KUTTNER, for instance, is quite close to a pure Freudian. Almost all of his later work contains considerable character-analysis from the point of view of classical Freudianism, only slightly modified by the views of later workers in the field. You will remember Ridgway, the cour-

ier in *The Fairy Chessman*, who, when driven into the last corner, curls up in the foetal position and will never stir from it again; this introduction of the foetal position is in part simple observation—certain kinds of insane people do assume the foetal position—but it is based in a consistent Freudian analysis of *why* Ridgway should adopt *that* kind of insanity instead of some other. There are literally hundreds of similar examples in other Kuttner stories; some analysis of psychological situations is now standard in his work.

This preoccupation is rather characteristic of the born writer, but not at all characteristic of the born engineer. When the latter turns writer, you may expect good characterization—if the engineer is also gifted as a writer—but you won't find much psychological theorizing. In the stories of Robert A. Heinlein, for instance, the motivations are significantly adult. There is never the slightest suggestion that a given character's peculiarities might have been formed when he was an infant or a very small child—a theory which is a feature of almost all systems of psychology. Heinlein's characters are dumb adults or bright adults, but they never revert to childhood basics; Heinlein seems to be unaware that people ever do this—probably because of his engineer's bias towards all-pervasive rationality, re-

Our Next Issue's Feature Novelet



"The ultomaton will come up with something, and that something will be far closer to a successful plan than anything a mere human, or group of humans could conceive. And out of what it gives us, we may be able to get something that will bring about the successful conquest of the entire Federation."

"Or the destruction of all six of us," Rial said, realizing that the ultomaton knew.

ALL THE ANSWERS
by Rog Phillips

ardless of the level on which that rationality may be operating.

In the stories of Ray Bradbury, on the other hand, the characters consistently behave like small children, apparently without Bradbury's being aware of it; and all of them display a powerful death-drive—which is one of the most striking, and most debatable, features of Freudian theory.* I introduce Bradbury here mainly because his work is all psychological at bottom, containing no trace of any knowledge of any other science. But he is a doubtful case because, since I have no personal acquaintance with him, I don't know whether his Freudianism is deliberate or accidental. If it is accidental, however, it certainly presents a most powerful argument for the Freudian point of view; I have never seen any writer embody it more consistently, nor limit himself to it more thoroughly.

One can no longer discuss the use of psychology in science fiction without noting the borderline realm of parapsychology—the realm in which such forces as telepathy, clairvoyance, telekinesis and other puzzling powers lie. Since Dr. Rhine of Duke University established that such forces do exist and have certain definite laws of operation, many science-fiction stories have been written using them: a recent example is Jack Williamson's *The Humanoids*, or my own *Jack of Eagles* (plug).

One of the most interesting things about science-fiction writers' handling of these forces is that the writers all seemed determined to reduce the psi powers to *physical* forces, or to explain them away in terms of physical analogues. The demonstration that psi forces do not in any way behave like physical forces is an important part of Dr. Rhine's work, but it is the part that is most often ignored. We live in a physics-oriented society,

and not even the flexible imagination of the science-fiction writer is comfortable in the presence of the non-physical.

Cybernetics, too, is a branch of psychology—though an extremely simple one—and since Norbert Wiener first appeared on the horizon there have been a number of stories dealing with human thinking in terms of analog computers. Raymond F. Jones has written a number of typical samples. Dianetics, which took the cybernetic view of human thinking from the realm of speculation into (in my opinion) the realm of religion, naturally entered into many stories after the publication of Hubbard's book. There is Jones' *I Tell You Three Times* and other, more slavish examples. Some of Theodore Sturgeon's recent work has shown a profound dianetic impress; I've been guilty of using it briefly in one of my own, and at length in another story.

This was quite inevitable. Writers, who at their best are people interested in human behaviour, are almost helpless before any apparently-reasonable, picturesque psychological theory, and become bitter partisans upon the instant. One can work up a better, more furious, and more bitter argument between opposing psychological schools among a group of writers than you can ever start among a group of psychologists. And if you tell a science-fiction writer firmly enough that some particular school of psychology is really a science, you are likely to have a convert on the instant.

ACTUALLY, no branch of psychology is a science—or anything like one—as yet. Kuttner's practice of sticking closely to the oldest and the most respectable psychological theory—that of Freud—is sane procedure for a writer who cannot be specialist enough to make his own value judgments among the competing schools. Even better is that of van Vogt—at least the van Vogt of the pre-dianetic

* Freud himself regarded the "death-in-stinct" merely as a speculation. —RWL

period: up to recently, van Vogt tried to analyse each of his characters in terms of the character alone, handling the character as a perfectly unique individual without anything in his background which might be shared by all men. Where van Vogt sought to ascribe behaviour patterns to more general basics, he abandoned men entirely and invented monsters, or robots, which he did not have to picture as humans; the behaviour he assigned them grew out of the rigid and authentic science of experimental physiology. He never assigned a mechanical motivation to a human being, to the best of my knowledge; humans he continued to write about as unique situations, as his interest in General Semantics had taught him to do. It was a sound and scientific way of approaching the writing problem, and I, for one, am sorry that he has now found a psychological system to which he can subscribe. He made much bet-

ter sense under the old attitude.

Nevertheless, any writer has every right to attach himself to the psychological theory which attracts him most—which he thinks the most tenable—and to use it for all it's worth in his stories. He can't be forbidden it; it's part of the writer's duty to present real characters, who are understandable, to the utmost of his ability. If some specific theory helps to make the character come clearer, then the theory is useful and valid.

We will be seeing many such theories expounded in science-fiction stories in the future. The fact that most of them will be rather silly will not invalidate them *for the purposes of the story*. If they get in the way of the story, they will be liabilities; if they help the story, they will be assets.

We have no other way of judging them now, for the simple reason that there is as yet no "science of psychology" at all.



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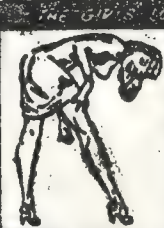
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The sabre-tooth tiger had broken loose and was on them.

when in doubt mutate!

Oscar didn't have any choice about becoming a human being, but he didn't have to like it. And, perhaps, he didn't have to stay human, either!



EVERY DAY, Oscar went with his tutors to the laboratory, where Dr. Hubert Cromer and his assistant, Eric Logan, rechecked Oscar's cephalic index. They photographed him, full face and profile; they made various measurements, particularly of his arms and legs. When all this was done, Oscar would step into the heavily-shielded radiation cabinet. There, in a comfortable chair, he opened his textbook, though he never learned much during the processing period. The whirr and hum of the apparatus put him to sleep.

Since Oscar had none of the standards of comparison which the ordinary human gets from discussing thoughts, memories, and imaginings with other humans, the state of his own mind and fancies did not strike him as unusual. Nevertheless, Oscar was rapidly developing a form of introspection, though Cromer and Logan allowed him little time for day-dreaming.

They were intent on coaching him for college-entrance exams; in this, they were more ambitious than Oscar.

The hum of laminations, the acridity of the ozone-charged air, the pulsation of the forces concentrated upon him disturbed Oscar. He began to think that these—rather than trigonometry, or the attempt to keep awake—caused that peculiar sense of strain, and pressure between the ears.

Oscar's inference was correct. The hyper-*gamma* radiation, which Cromer's apparatus generated, was of an intensity far higher than its nearest counterpart, the cosmic ray. Lenses

focused it on the subject. The lenses of course were not of glass, but of a composition which would refract waves measured in small fractions of a Siegbahn unit.

This radiation accelerated Oscar's evolution at a rate measurable in days, rather than in millions of years. Cromer's theory was that orthogenesis, while originating from within a creature and not because of environment, could nonetheless be stimulated by external forces. In this exception, he differed from Eimer, who had promulgated the basic doctrine.

In addition to altered appearance, Oscar had experienced significant inner changes. There had been a marked increase in his awareness of individuality. Although his memory still went back to the time when his sense of identity was largely merged with the group-identity of his kind, these images were fading rapidly. They revived only when he was in that zone between wakefulness and sleep. It was then that he had vivid recollections, and—regrets.

The arboreal life had been ever so much less strenuous and lonesome. There had been companionship, good fellowship with other chimpanzees, as well as that comfortable realization of being part of an integrated entirety. Artificial evolution had individualized Oscar to the point of isolating him.

Cromer and Logan, preoccupied with their experiment, did not share their personal thoughts with him. They were too intent on probing, analyzing, and evaluating Oscar's thoughts.

When the automatic cutoff broke the power circuits, Oscar stepped from the cabinet. Blinking away the lethargy which the vibration induced, he faced his mentors.

CROMER WAS round-faced and bald, with a hedge of crinkly, iron-gray hair at ear-level. Bushy brows shaded eyes of almost caustic intensity; brows and mouth had an ironic quirk. The chunky doctor's bitter realism was leavened by kindness and good humor, which he gave free play—as long as he could afford to.

Logan, years younger, was tall, sandy-haired, and long of face: a good-looking chap who took himself too seriously. His expression gave evidence of intellect unredeemed by humor. There was good fellowship, all right, yet it was inhibited.

"How about a bit of handball, or a jog around the track," Cromer demanded, jovially. "You've been dodging your workout schedule, haven't you?"

Oscar's brow puckered, exaggerating the supra-orbital ridge. He had a squarish face, rugged yet pleasant. The nose was not quite as dominant as it should have been to have matched the strength of the other features. The eyes were bright, alert, and the entire expression, keen and amiable.

"This business of keeping fit," Oscar answered, candidly, "is nonsense; I don't see any use of moving except for fun, or for a good reason."

Logan and Cromer exchanged a quick glance. "Oh, very well," the latter agreed. "Then we'll get at our study conference."

"That is something else I've given a lot of thought," Oscar went on. "Suppose I concentrate on chemistry, physics, and mathematics. And skip economics and aesthetic appreciation."

Cromer eyed the typed curriculum sheet. "Well, now, we have been crowding you," he conceded. "Though I think you should continue manual training, and folk dancing."

"I don't mind a bit, as long as it won't interfere with my tending to the animals."

"How about it, Eric?"

"A schedule should be flexible,"

Logan said, a bit ponderously. Then, "Oscar, how are you doing with your history assignment?"

"I remember every bit of it—even the names and dates. But the reasons people had for doing the things they did are obscure. For instance, the war of 1980 confuses me; so do the twenty or thirty years preceding it. They gave rewards for raising big crops of potatoes, then they threw the potatoes away. And all the while, only the very wealthy could afford to buy potatoes. I think I should drop history, and economics, too; both leave me utterly perplexed."

So saying, Oscar headed for the woodwork shop.

Logan shook his head. "I fear there is an inadequate personality-development. There is no denying that he has reasoning powers, but his logic is that of an ape."

Cromer shrugged. "You expect too much, Eric, all at once. His intellect is actually higher than the collegiate average. Legs are lengthening. Posture virtually human. Amazing, too, how that nose is developing. Remember, he was full-grown when we started. Meanwhile, it is high time we revealed our findings in some form that the public can accept."

Logan drew a deep breath, and exhaled slowly. "They'd never believe *anything* pertaining to Oscar. Not even the movies, and the wire recordings of his progress toward speech." He eyed his chief. "You knew from the very beginning that any such demonstration of the evolutionary ray would be unacceptable. Otherwise, you'd not have gone to such trouble to import those kiwis."

Cromer nodded. "Even if a board of scientists had watched Oscar from the start, there would be emotional revolt. Theological opposition, you know. Our experiment would be considered blasphemous—all the more so for being effective. Nothing is as infuriating as a truth that upsets emotionally-nurtured nonsense.

"So, the *apteryx australis* seemed to



"Oscar, we shouldn't have come here," she said. "Let's go now."

be the solution. Nothing offensive to the public ego. Also, we'll give them a double-pronged jab."

"Double?"

Cromer chuckled. The sardonic twists were beginning to show in his face and voice. "You've been wondering why I dumped so many responsibilities on you. It's time at last to let you know I have been devising a procedure to work the cosmic-evolutionary ray treatment *in reverse*.

"We shall subject one *apteryx australis* to the same processing Oscar got. The vestigial wings will evolve sufficiently to sustain flight; at the same time, another specimen will back-track."

Logan jerked to his feet. "You'll make that one revert to the *archeopteryx*? My good Lord, doctor!"

"Better than that, my boy; we'll carry him back to the previous stage. Back to the *pterodactyl*. Specifically, the little *rhamphoryncus*. When they

see the first saw-toothed *archeopteryx*, and then the flying reptile, they'll believe. *Res ipse loquitur*—the thing speaks for itself, and no theological roadblocks!"

IT TOOK Logan a moment to digest all the implications. Cromer pencilled a few equations, all with reference to the basic process. He went to the electronic computer, punched out the data, and set the "brain" in motion. Then, as the gears whined and the pilot lights blinked on and off, Cromer explained. "It hinges on the evolution constant, *kappa*. But *kappa* to the square root of minus-one power."

After an open-mouthed moment, Logan readjusted his face. "I might have anticipated as much—that monograph of yours, just before the bombing. Meanwhile, how far will we go with Oscar? Entering him in college will be expensive. With taxes

spiralling, sponsors are as scarce as bird's teeth."

"*Archeopteryx* teeth," Cromer retorted, "will not be scarce. We'll get sponsors." Pouncing to a filing-cabinet, he got a clipping from a nationally-circulated magazine. "Hundreds of sponsors, Eric! Yes, thousands of sponsors! Anonymous and unwitting—but, sponsors."

"Oscar will enter college. You and I will embark on research that will make our present success seem pallid and pedestrian."

"I am not so sure of that," Logan muttered, abstractedly, as he regarded the clipping, though without actually seeing it. "Ever since the 1980 A-bomb proved to be so inefficient, science has been discredited—*see here, doctor!* What has this clipping to do with sponsors? You've handed me an item on the black market that is being encouraged by the rigid social inspection of couples proposing to adopt an infant."

"Fixers get a thousand—two thousand dollars for short-circuiting legitimate agencies and supply bootlegged infants, without the usual survey of the prospective foster parents."

"Eric, you are as cloistered and naive as...well, as Oscar. We'll apply the evolutionary ray to infant chimpanzees. Wholesale them to the black-market baby farms. The operators will doubtless wonder at our corner on the supply, our apparent corner on the supply of unwed mothers—damn it, these will be mothers thoroughly unwedded, if you must be literal-minded! But let 'em wonder."

Logan regarded his chief with something akin to reverence. "Doctor, I have seen a number of infants that parents trot so proudly from maternity wards. I have often been baffled by the infrequency of infanticide. No foster-parent could ever tell the difference between our product and the genuine one."

"Genuine one? Damn it, Eric, *these will be real*. Better, however. More

truly human than the normally-produced infant, because more highly evolved than today's standard. But not sufficiently so," he hastened to add, "that the foster parents would feel maladjusted. You see now why Oscar should enter college?"

"As a control check on our process?"

"Right! Frankly, I think we have over-processed Oscar. His comments on history are...well, antisocial. I can't picture him playing football, being a cheer-leader, or putting up with initiation into a fraternity."

Logan objected, "I don't think it is a matter of his being too highly evolved. In my opinion, it is a question of environment. You, for instance, are an unorthodox personality. Now, when we begin having droves of visiting biologists and palaeontologists, Oscar will become conditioned to the norm. By the way, we'll need facilities for our suspicious visitors."

"I've planned all that," Cromer answered. "Indeed, I've been running ads for a receptionist; you might go over the applications with me."

"We need a receptionist?"

"Of course. A girl of pleasing personality—one to butter the sceptics the moment they arrive. She must have an appropriate educational background, so she can participate in our research. That would undermine resistance. Since they'll approve of the girl at first sight, they can hardly reject her activities. And so, they will be inclined to accept her associates."

Logan stroked his chin thoughtfully. "If we found someone really trustworthy, she would be valuable when we give the infant chimpanzees the evolutionary processing. As they become humanized, they will become a trial. The feminine and maternal touch will be essential; frankly, that hadn't occurred to me."

THE PHONE rang. Logan reached for the instrument. He listened for a moment or two, then said, "I

will let you speak to Dr. Cromer himself." Then, to his associate, "She is one of the applicants; she is driving through Fort Slade; she wonders whether she might not detour for an interview, since she is so near, rather than rely upon the formal application."

"Must be pretty bright, tracing a blind ad. How does she sound?"

"Hear for yourself, doctor. You'll know why I didn't tell her to wait for your written reply; her name is Diane Malin."

Cromer listen to Miss Malin, and lost little time in telling her to come to the installation at once. When he hung up, he said, "Eric, you will not under any circumstance whatsoever give Miss Malin any information as to Oscar's origin. Any such statement—or even a hint—would make her doubt our sanity, or our integrity. She has to see for herself, become accustomed to the idea, bit by bit. Oscar, as far as she is concerned, will be a relative of mine—a poor but deserving young fellow whose education has been neglected until recently."

"You've not given her the position, as yet."

"The picture and the application had put her at the head of the list," Cromer answered. "And this bit of initiative does it! Now you might run along and get ready to receive the young lady, and I'll be briefing Oscar."

Once Logan had left, Cromer leaned back in his chair, and put his feet on the desk. He nipped the tip from a cigar, struck light to it, and took a long draw. "It would put Oscar at a decided disadvantage, and give Eric an undeserved lead with Miss Malin," he said to the smoke cloud, "if she knew too much about Oscar's ancestry. Happily, Eric has sufficient congenital smugness to keep him from ever suspecting that an ex-chimpanzee could offer him any competition."

Having delivered this judgment on some of the less fortunate consequences of the higher education, Dr. Cromer settled back to enjoy the anticipation of some of the finer nuances of his experiment. Being dumpy and bald-headed, he had no cause at all to wonder whether a maroon sport-shirt would catch Diane Malin's eye more quickly than would a green one.



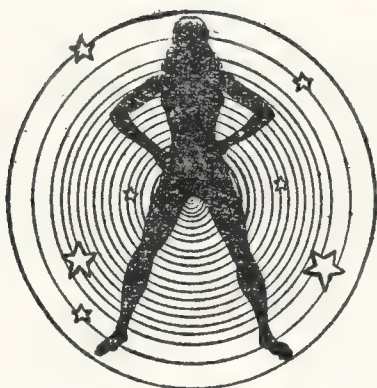
THE FIRST sight of Diane was enough to make Oscar very happy when Cromer directed, "Oscar, show Miss Malin around the installation. The grounds, I mean. Never mind the laboratory and office."

The newcomer was compactly put together, solid of shoulder and hip, and well-rounded. Substantial, no doubt of it, yet the first impression and the final one was that of grace and daintiness. She had small feet, elegant ankles, and carried herself with the poise of a dancer. The dark eyes were the friendliest that Oscar could imagine. And Diane's smile gave light and loveliness to features which were sufficiently off symmetry to be piquant—there was none of that regularity to suggest that she was the duplicate of anyone else's pattern.

If Cromer had said, "She'd like to see you step into the Sumatra tiger's cage and pet him," Oscar would have been very happy to oblige.

He had never found Logan disagreeable. He had always liked Cromer, and had rather enjoyed doing such things as pleased his mentor. But this was something new in Oscar's life: here was someone he would be delighted to please. This experience made him forget himself so completely that he was not in the least self-conscious as he took charge.

Since Cromer wanted freedom from



municipal and county zoning ordinances, his estate was isolated. The high-tension power line and the bank of transformers which fed the cosmic ray apparatus sufficed to give the installation an industrial aspect. Finally, the powerful fields set up would interfere with radio and T.V. reception, were there any residences in the vicinity.

A high fence, guarded by a triple row of barbed wire, surrounded the entire tract. This piece of Florida was home to Oscar. Every tree, every tropical plant and trailing vine of the estate in which he had been acclimated submerged what remained of native jungle memories. Then, as his artificially-induced humanity took charge, there came an ever-increasing intensity of experiencing, so that even his acclimatization-period among Cromer's palms and broad-leaved banana plants receded toward the vanishing point of his new perspective.

And now, Diane—

The girl in herself was sufficiently important in Oscar's life: but her arrival signalled a change of routine. He met the learned and critical visitors who came to Cromer's installation. He associated with them at mealtime, and at cocktail hour conferences. They went under his guidance to the aviary when he fed the kiwis, the archeopteryx, and the rhamphoryncus.

Sometimes, Cromer went along, to answer objections.

THE VISITORS felt somewhat less sceptical when they saw that the bird with thirteen upper teeth in its beak actually ate. They had difficulty, however, in accepting the bird-like reptile which, unlike the archeopteryx, had no feathers at all. Its twenty-five inch wing span was of membrane comparable to that of a bat. There was muttering about fantastic surgery...

"They eat, gentlemen, they eat," Cromer would say, as the visitors eyed the exhibits, and then each other. "They are not robots; they are not birds in masquerade. Look closely, and as long as you wish. Each is a fully-integrated creature, moving under its own power."

"That is self-evident," the long-nosed palaeontologist, Winthrop, admitted. "But frankness compels me to insist that this is a hoax. You have found, somewhere or other, some prehistoric survivals. That in itself would be little short of fantastic, but claiming that you have artificially reversed the course of evolution, so that the kiwi has reverted to its ancestral pattern—you are going quite too far, doctor! Gilding the lily, as it were. Even the entertainment value is dubious. Pardon me for being so outspoken, but integrity compels me."

Winthrop's restrained denunciation gave the others their opening. Each echoed the palaeontologist's doubts.

"Oscar, show these gentlemen the flying kiwi."

They followed Oscar to another cage. In it was a chunky fowl, brown, with stringy feathers, and a long, slender beak. In proportion to the body, the beak was comparable to that of a crane, though it curved like a sailmaker's needle. At Cromer's nod, Oscar stepped into the inclosure, and tossed a pebble at the bird. It took a dozen steps, all the while flapping its wings. Then it was in flight, a sustained flight of twenty yards, carrying it to the branch of a dead tree set up as a perch.

"Not the futile, three-inch wing stumps of the *apteryx australis*, gentlemen," Cromer said. "Perhaps Doctor Winthrop, you have found fossil remains of a creature like this one." Getting no answer to his challenge, he resumed, "I thought not! —Because this is a new mutation. The *kiwi australis* is an example of atrophy of wings. It makes no difference whether the kiwi's wings atrophied because he kept to the ground, or whether he kept to the ground because his wings had atrophied.

"In any event, there are no fossil remains of any flying kiwi. So, I could not have found, very handily, in some heretofore unknown preserve of prehistoric creatures, any such kiwi!"

"What is your theory, Doctor Cromer?" the inquisitor resumed.

"Anything for a theory! That's the trouble with scientists, the moment they turn from the purely operational-mechanical. A fact is ignored, or else it is twisted to accord with a theory. A process of reasoning *from* a conclusion, instead of *toward* one. Remember Gaetke, in Heligoland, observing migratory fowl?"

"He *concluded* that their migratory flight was substantially completed in the course of a single night. And *therefore*, according to him, to cover such a distance in such a time, the plover had to fly at the rate of two hundred miles an hour! Two hundred and forty miles, rather. Many years passed before it occurred to anyone to ask *whether* the migratory flight was completed in the course of a single night. Years passed before anyone bothered to use clock and theodolite to ascertain the plover's actual velocity on the wing!

"Then there is the Pyramid of Cuicuilco, in the Valley of Mexico. Baron Humboldt and others had theories as to its age. Lava surrounds its base. Manifestly, the conical pyramid was there before Ajusco erupted. According to one theory, the pyramid is 4000

years old. According to another, it is at least 10,000 years old. A spread of 150% in determining a comparatively-modern period.

"And now you want a theory before you can cease insisting that these creatures are a hoax. I said that in things purely mechanical, science has done nicely—though that improved bomb of 1980 was a sad let-down. Ours failed to annihilate the enemy; his failed to annihilate us—despite the theories which made annihilation inevitable."

THERE WAS a fidgeting, a shifting of feet, a gulping and a blinking. There was wrath in the faces of some, whereas others showed conflict between the urge to accept Cromer's experiments, and the urge to stick to what the books and authorities set forth.

"Well, now, Doctor Cromer," young Handley, the geologist, said in his diffident way, "isn't it natural to be interested in the theory which was used in developing these things?"

Cromer snorted. "That's merely a left-handed way of setting your intellectual processes up as a criterion of that which is, and that which is not possible. What you actually mean is that if I will only offer an acceptable theory, you will believe. But if my theory is not acceptable, you will reject a fact. Stick your finger into the cage of the pterodactyl and see if you need an hypothesis to account for what will happen! Oscar, let Mr. Handley see your right index finger!"

But Winthrop intervened. "You're making a personal issue of this. Perhaps we should not blame you; I am aware that my remarks made your attitude inevitable. Let me apologize."

"I'm not griped," Cromer said, cheerily; "you folks are. Anyway, I began from considering Eimer's term, orthogenesis. My understanding of his entire concept was this—that variations from the normal form of an animal species do not arise by chance.

That the *cause* of the variations, however, is uncertain. But that the cause is within the animal, and not in the environment; and that the change *need* not have any positive adaptive significance, though it may in fact have such significance.

"With that start, I turned to the hypothesis that the cosmic ray was one of the causes of variation. That unusual intensities set into operation glandular, neural, metabolic, and other changes, the results of which are a variant. So, rather than publish a theory, I devised a generator, as you have seen, to produce the equivalent of the cosmic ray. A vibration of far higher frequency than any recorded by Millikan. And now I'll meet your challenge."

"Pardon me, Doctor, but you mistake our motive," young Handley cut in, pleasantly. "Now that you have elucidated, at least, outlined your theory, it seems very reasonable."

"What I have spoken," Cromer retorted, good-humoredly, "is, as far as any of you are concerned, nothing but pure gibberish. Words—words of the sort that people have an itch for worshipping, in the way they revere a definition. A definition consists of words which create a purely subjective illusion of understanding; but cast no light at all upon the real nature of that which they purport to define."

"Go into the kiwi's cage. Search it; inspect the kiwi. Set up a tent, if you wish, and have a committee-man on duty, day and night. When the kiwi lays a clutch of eggs, mark them and put them into the incubator."

"I shall apply the evolutionary ray, either direct or reverse, as you elect. We will hatch either a kiwi chick with wing-spread, or we will hatch an archeopteryx—yes, or a rhamphoryncus, if you wish."

"Call my hand—or, call it a day, and let Oscar help you with your luggage. Gentlemen, name it and take it!"

Handley observed, "There are two eggs in the cage, now. We can certainly assume that they were laid by that kiwi hen. We will mark each egg with our specification." He turned to his seniors. "Gentlemen, wouldn't that be sufficient to protect us against subsequent charges of having been hoaxed by the substitution of archeopteryx or pterodactyl eggs for those of a kiwi?"

They agreed to this and marked the eggs. Carefully bedding them in handkerchiefs, put in the crown of a hat, the delegation made for the house. The walk skirted the front of a number of cages. Handley exclaimed, "What a magnificent specimen of cloudy tiger—Sumatra tiger, isn't it?"

Oscar answered. "Quite right. The most primitive of the *felis tigris*. Confidentially, Doctor Cromer intends to reverse his evolution."

"To what?"

"To the *machaerodus*—the sabretoothed tiger. One of the smaller of the species. Probably the size of the *machaerodontinae* of the La Brea asphalt pools."

"That is something I should like to see."

Oscar shrugged. "I'm afraid you'd not believe it when you did see."

He felt very much better about everything. He had dreaded the thought of college, largely from the lurking fear that his simian origin would somehow be exposed. He had had this fear despite his having for a long time had only occasional memories of simian days. But now the fear was gone.



DIANE'S presence not only stepped up Oscar's social evolution, but also jarred Logan out of the rapt contemplation of his

own talents and powers. Logan began boning for his doctor's thesis, the one direction in which he was sure that no ex-chimpanzee could outpoint him.

The social aspects of the triangle fascinated Cromer; so did the biological potentialities. Cromer reasoned, "If she went off the deep end for Eric, no one would learn anything—least of all, Eric. It would be repetitious. It's been going on for (n plus 1) years now. The results are always essentially the same.

"But if she takes a fancy to Oscar ...man, man!"

Cromer devised a road-block to hamper Logan, who was taking plenty of notice of Diane. "Eric, I am working on something that requires your specialized touch, and background," the doctor led off, one day. "The biochemical approach. A synthetic hormone to coordinate with the hypergamma ray. A super-hormone. It will be a product whose application will be widespread, and entirely orthodox. So, there will be enormous publicity, and cash profit, too."

Logan was thrilled. Having his man baited, Cromer went on, "We'll do the preliminary work together. Once success is assured, you will announce the discovery in your own name—perhaps from a laboratory of your own. Then it will not be tainted by association with me. Bluntly—let's not evade the issue—I've become a pariah, after that demonstration for our panel of scientists."

"But how could I...ah, live it down?"

"Simple, my boy, simple! You and I will quarrel; you will denounce me as a fraud. You will show how you were deceived. Your readiness to endure humiliation will establish you as right-minded, willing to go to the uttermost in the interests of science.

"From then on, if you announced a method for squaring circles by purely Euclidean geometry, it would be accepted. But I must warn you that the difficulties will be terrific; you

will be a galley slave for weeks, perhaps months."

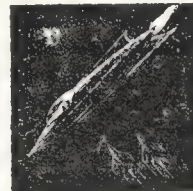
Face aglow with gratitude and dedication, Logan fairly stuttered his acceptance. Then a practical aspect occurred to him. "Who will finance the laboratory I'll need when the time for exposure comes, and I have denounced you, and left here?"

"Synthetic infants for adoption. Humanized baby chimps are doing very well. We have not increased the output—Diane is overworked in the nursery already, particularly with her coaching Oscar for his examinations.

"But I have doubled the price, and the black market offers hardly any sales resistance. I venture to say I can double it again. Queer people, queer world! Abortion mills on one hand; adoption mills on the other; and at the doors of each, patrons are trampling each other in the rush."



Once Logan's research program had got a start, Cromer was able to figure to within a day or so of the time when Logan would have a breathing-spell. It did not take either a scientist or a soothsayer to predict that a date with Diane would be uppermost in his mind. Oscar, meanwhile, had not developed sufficient self assurance to make good use of his advantage. Cromer accordingly began setting the stage, and pulling strings.



As though working according to plan, Logan barged into the office where Diane was busy with the installation's paper work. She turned from her typewriter, to say with pleasure and surprise, "Eric, how on earth

did you contrive to get loose? How are things going?"

"Under control. Still a lot to do, but I'm unshackled for a little while, tonight. Let's get out of this concentration camp and do the town. Dinner and stuff. We'll dance, or take a boat out on the bay—no, we'll dance. That was a formal you had hung out to air, along with the silver pumps on your window sill. Psychic, anticipating the situation."

"Oh, Eric, I'm awfully sorry! The humidity does get into things, and I was taking the tarnish from the sandals—but look! Look what's stacked up. Coaching Oscar, of course, and then a deadline to make. One of those everlasting bulletins to go to the printer; I simply can't get away."

Logan's face lengthened. "That slave-driver would have to think of something of the sort, right now! Well, I'll go back to the galleys, and maybe I can win a headstart. To have time out when you're free."

"Sit down and tell me how the project's been going? We hardly see you any more—even at meal times!"

"It's promising enough. How are the infant chimps?"

"Not as trying as a nursery of human infants."

After chatting a moment, Logan went his way.

THAT EVENING, Cromer broke in on the evening study conference, which had been postponed because of the clerical work Diane had been doing. He said, "Diane, my night vision is getting worse and worse. Mind driving me into town? Len Hardwick's just arrived."

"You mean *the* Hardwick? Marine biology? Yacht and all?"

"Yacht and all. Oscar, you can well afford to miss some study. Hardwick's secretary, Clifford Burr, is a graduate of Waterford U. Be good for you to talk to him. Get oriented, you know."

"Is Eric going with us?"

"He couldn't be bothered," Cromer said, as he hustled them to the door. "He can't stand Hardwick; each is a frightful egotist."

Whether the *Thetis*, Hardwick's sea-going laboratory, was cruising solely in the interests of marine biology, or whether her real purpose was to chart wind and water currents, in the interests of national defense, was something which Hardwick had always kept strictly to himself.

The *Thetis* was anything but glamorous, being dumpy and durable. The term "yacht" was a misnomer from the start, applied somewhat as a convenience, and somewhat out of wry whimsy.

Cromer phoned from the shore station. When he stepped from the booth, he said, "Well, now! Hardwick's secretary stayed in Havana. You'd find it awfully dull, auditing me and Hardwick. Why don't you and Diane go to a movie? Kill time somehow or other. Phone me every once in a while, to give me an excuse to break away. Some of Hardwick's moods make it deadly to stay more than just so long. Again, he's positively sparkling!"

Diane said, "Oh, I'll tell you what! Oscar and I will loll around the beach; we can phone you from the Palmetto Lodge. It's right handy. Your rescue party will be waiting for you on the dot!"

Cromer considered this a grand idea. Already, a launch was putting out from the *Thetis*.

Moonlight silvered the white sands of the beach. Tall palms and the masts of boats made a black pattern against the brightening sky. When they were halfway to the neon lights of the Palmetto, Oscar seated himself on the coquina breakwater.

"I'm glad you could get away," he said, as Diane joined him; "you've been getting an overdose of all this study. Sometimes I'm on the verge of telling the old man that I am not cut out for it."

"Oh, but you're doing marvelously, Oscar, really, you are. You mustn't be discouraged."

"Probably I shouldn't. And I do owe him a lot. Giving me this chance to get an education. Only—"

He lapsed into a moody silence. "Only, your heart isn't in it," Diane prompted, "and yet you hate to seem ungrateful?"

He looked up, nodding. "I can't make a religion of it. Not the way others do."

"But we don't! Not really. All you need is a change of pace." She came to her feet, all in one delightfully graceful motion, and caught his hand. "Let's go to the Lodge and dance."

He regarded her with dismay. "Good Lord, I don't know how! Watching the television is hardly enough. Nor is folk-dancing."

"Come on, I'll show you. That's as important as anything you've been frowning over. More so, really, when you enter college; you've been caged up in that jute mill quite too long."

THE PALMETTO LODGE was cozy enough for a juke joint, and friendly. The fat, swarthy proprietor smiled to outdo the moon. There were vacant tables, and unoccupied booths as well. Turning to one of the latter, Diane remarked, "Things are just right, tonight. Not crowded enough to hamper you, and still enough people to keep you from feeling conspicuous on the floor."

Oscar ordered beer. He watched the dancers, looked up at the Spanish moss that festooned the ceiling beams. He watched the reflections in the back-bar mirrors, and appraised the lighting. Relaxed and smiling to herself, Diane regarded him fondly, and

let him make up his mind, pick his moment.

When he frowned, he was a little beetle-browed, but that didn't matter, she told herself. She preferred his somber intentness to Logan's glib self assurance. Eric was nice, though, in his way. She felt guilty for enjoying the situation, even though she had not planned it.

Oscar, nerving himself, edged from the booth.

Lightly, eagerly, Diane was with him. "Nobody's watching you but me," she murmured, as they stepped off; "and I'm not watching your feet."

He did not do as well as she led him to believe; he did not do as badly as he thought he did. By the time the music cut off, it was easy for Diane to say, "Why, you're marvelous! Next one, just forget you are learning, and there you are."

Finally, they remembered to phone the *Thetis*.

Cromer was not yet ready to be rescued. He asked, "Is that music I hear?"

"We're at the Palmetto, having a grand time," Diane answered. "Stay as long as you like."

They danced some more. At last Oscar called the yacht. "Don't worry about me," Cromer assured him. "Have a good time. Write it down as cultural activities. I'll find you when I'm ready to leave—don't wander too far from the Lodge."

By now Oscar had no need of Cromer's urging.

"I think," he said to Diane, "that I won't mind college, or meeting people, nearly as much as I thought I would. But one thing I know I won't like."

"What's that?"

"Being so far away from you. Now that I look at that side of it, I don't see much future in education."

"Oh, but it is important. It's more than training your mind; it's a mat-

ter of meeting people, making contacts."

"You're more important than anyone I could possibly meet anywhere else. This is the first time I've really seen you. Until now, all I saw was the outer layer of advantages, education and the like. But the only meaning they have comes from you, yourself."

Her eyes went wide and misty. "That's a beautiful way of putting it, Oscar. But your future—"

"Would school or the lack of it make a big difference between you and me?" He got up, catching her hand. "Let's get away from noise and people, so we can talk."

The amiable proprietor, thinking they were going to dance, came up. "Someone is asking for you—"

"Thanks."

Diane took Oscar's arm. "Been lots of fun, hasn't it?"

JUST OUTSIDE, they saw the man who was looking for them. Not Cromer, but Eric Logan. His mood was not sweetened by the glow which Diane and Oscar radiated, each to the other, and both to the moonlight and the muttering sea.

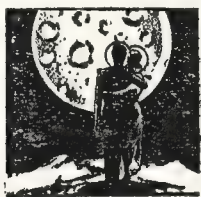
"I'm sure you've as good as passed your examination," Logan said, sarcastically, addressing Oscar, but intending the jab for Diane.

Diane flared up, "Doctor Cromer called us from our work!"

"He would!" Logan retorted, bitterly. "If you get such a glow from dancing with the first of Cromer's reconverted apes, you're very welcome!"

"Eric—what do you mean?"

"This—" Logan gestured. "Is the master model. Take a good look and



see how the infant chimpanzees will be when they grow up."

Oscar shed all his social training; he socked Logan with micrometer precision and sledge hammer force. The first punch froze Logan on his feet; the second, connecting before he could collapse, flung him half a dozen feet. The one-time athletic director landed like a bundle of rags. Oscar, functioning with the finest of coordination, was following through, to make a job of it, when Cromer came racing up.

This was no time for dialectic; Cromer snatched a good-sized chunk of coral and clouted Oscar on the head. The blow knocked Oscar to his knees, but did not lay him out. Blinking, he hitched about.

Cromer said, "Break it up, Oscar. I heard what he said. At least, you are custom built; the rest of us, including Diane, are helter-skelter mutations." He spoke whimsically, with amiable irony. "Now, give me a lift with Eric. Nothing to worry about—take it easy, Diane—he'll recover—"

"That's not—not—what I'm crying about," she sobbed. "Is he—was he—"

Cromer chuckled with fine amusement. "Oh, *that* nonsense! Can't your feminine instinct tell the difference between a man and an ape? Well well! But most women can't; never could."

Cromer's manner was convincing. He went on, "You two lovebirds run along," he said, cheerily. "I'll take care of Eric. The poor chap's overworked. Frightfully ambitious, you know. Under a terrific strain. And he's the type that—" He lowered his voice, confidentially, and made a tapping gesture against his own head. "Well, susceptible to hallucinations, let's put it. Under pressure, you know."

"Hallucinations?" Oscar echoed, and brightened, hopefully.

"Oh, the poor fellow!" Diane exclaimed, catching Oscar's arm. "You

shouldn't have hit him so hard!" Then, "Doctor Cromer, we could get a cab and leave the car for you."

"Run along, run along, now! I'll manage in my own way."

AFTER WATCHING them take off, Cromer went into the Palmetto to get a half-pint of brandy. In a few minutes, Logan was sitting up. When the man was reasonably coherent, Cromer gave him another sip. That did the trick.

"Eric," the scientist began, and hefted the chunk of coral with which he had tapped Oscar. "Do you see this?"

"Er—yes. Is that what he hit me with?"

"No, Eric. That is what I hit *him* with, to keep him from vivisectioning you by hand. And this, or something larger, heavier, and harder, is what I'll hit you with, if ever again you make any quips about Oscar's simian origin. You damned fool, he is bound to have a few residual memories; you could completely nullify a revolutionary experiment. The psychological development of the subject is not as spectacular as the physical, but it is equally important."

"If you'd been in my place, doctor—"

"If an ex-chimpanzee beat my time, Eric, I should regard it with scientific objectivity—and, look to my own evolution. But the truth of the matter is, Diane was entirely innocent. I thought it would be constructive having Oscar meet Hardwick's assistant, Waterford U. graduate. The man wasn't aboard, so I left Diane and Oscar ashore; you made rather an ape of yourself, spying."

Eric confessed, "Well, I did suspect a trick."

"Are you really serious about Diane?"

"Yes. And to have my time beaten by an ape!"

"It's not quite what you take it to be, my boy. We over-evolved Oscar. Granted, he is crude, naive, and in

many ways on a par with the cartoon-strip mountain-boys. But you're a trained athlete and didn't have a chance."

"He took me by surprise."

"Because his coordination is finer. He is a closer approach to the man of the future than either you or I. No reference at all to acquired skills and talents. I am pointing solely at the intrinsic substance."

"Are you suggesting," Logan challenged, "that I advance my own evolution?"

Cromer shrugged. "If the work to which I've assigned you suggests such a possibility, I'd not object. How's your head?"

"Clearing up, but aching."

Cromer offered the bottle. "Another nip?"

"Ummm... thanks, no."

Cromer emptied the flask with a long gurgle, and flipped it seaward. "Walking will do us good. You're a true scientist, proposing to experiment on yourself." And as they tramped along, Cromer summed up, "Metabolism, reaction time, these are easy to test. So is intelligence, at least in a purely empirical sense. The essence of it all—since we are to have an accurately controlled and truly revealing experiment—is the matter of viewpoint. *Weltanschauung* to use the archaic phrase. I prefer cosmic outlook, myself. We must determine criteria for evaluating it; once we have defined the term with sufficient exactness."

"You handle the defining, Doctor. I'll do the rest. No damned ape is going to beat my time."



RUMORS of war, and then, the inevitability of war, gave Logan added incentive for stepping up his evolution. As a scientist, he had a good chance of draft-exemption. He could not, however, demand

exemption since Oscar had no such advantage; the attempt would hurt his chances with Diane.

Outwardly, there was entire cordiality at the installation. Cromer was happy about the romance. He liked to see Diane setting out to help Oscar feed the animals. Oscar reciprocated by assisting Diane with the infant chimpanzees. Oscar and Diane were too happy about each other, and with each other, to brood about war.

Meanwhile, Logan had reasons for gratification.

Between the radiation-treatments he was taking, and the super-hormones, the man was changing. His presence had become stately. He no longer resented Oscar; instead, he had the enlightened view that if Diane responded to his, Logan's, advancement, rather than to his advances, there would be no problem at all. If on the other hand she were really too primitive to appreciate him, his loss would not be great.

Finally, he could get her interested in evolving herself; this would leave Oscar in the dust! Cromer, satisfied with Oscar's development, was letting well enough alone. "I have a large investment in that boy," he would tell Logan. "There is the law of diminishing returns. We have a sound product."

"How is that, Doctor?"

"The war is quite too near at hand for us to use our present abilities and techniques. The one after this one, however, will be the test."

"Doubtless it will. They said the previous one was—would be, rather. Just as they are now saying that this one will destroy civilization. I am sure it will not. The next one, though—"

"Pardon me, Eric, but I did not refer to the testing of the prophets. I contemplated the testing of our product. Thousands of Oscars hundreds of thousands of them—a solution to the manpower problem. Every original human will be draft-exempt. With highly evolved chimpanzees to do the

fighting, humans will not be required. Obviously, the chimpanzees must not be overly-advanced, or they would be unsuitable as soldiers."

Logan frowned. "Indeed, Doctor! The ideal soldier is a man of superior development."

Cromer made an impatient gesture. "Solely because men of superior caliber are so painfully scarce today. Imagine an entire army of superior men. There would be mutiny—anarchy—raging individualism, if each man were a Malborough, a Genghis Khan, a MacArthur—all leaders, no followers. You'd not have an army at all."

"I hadn't thought of that," the quasi-superman muttered. "I am quite too close to my work to have the perspective."

"Really, now?"

"Yes. With my stepped-up evolution, I'd be foolish to claim a scientist's or technician's exemption. It would not only put me in wrong with Diane—it would deprive me of the chance of enlightening her. Entering the ranks as a private, I would in a very short while become a general. The superior man, as you aptly observed, a moment ago, is a rare specimen."

Cromer slapped him on the shoulder. "Splendid! When you return with three, four—or even with two stars, I doubt that Oscar will be a competitor. Now, shall we have our routine check of your development?"

"Any time you are ready."

"What is the integral, between the limits of zero and infinity, of the square root of X times e to the minus ax power, differential x ?"

Logan closed his eyes for a moment. He opened them. "One over two- a times the square root of π divided by a ."

Cromer eyed him. "On the level, Eric, was that one you memorized, or did you really solve it?"

"I solved it, this very moment. Give me a difficult one."

Cromer turned to his desk. He found a paper. "Here is one that I fed the electronic calculator; it blew a fuse. See what you can do with it."

Logan frowned at the paper. He got up and paced the floor. He sat down. He hunched over, squinting at the sheet. Of a sudden, he relaxed, jumped to his feet—and recited the answer!

"Wait a minute! Good Lord, Eric! I forgot to take note of it. Let me have it again, and slowly."

He got it. Then he asked, "But how do I know it's correct?"

Logan grinned triumphantly. "Take my word for it. Or calculate it yourself to check up. Any other tests?"

"In the laboratory, yes. Reaction-time and other routine." And then, as he followed Logan, Cromer added, "I think that adding another bank of tubes to the calculator will enable it to handle that problem I gave you. I am going to check your answer; don't think I am not. If you did get the correct result, mentally, I am going to issue invitations to a demonstration."

"With mathematicians to witness it. They will bring their pet problems for you to solve; thus there can be no talk of collusion."

Logan wagged his head. "I'd enjoy meeting those stuffed shirts and their problems!"

As though in answer to Logan's challenge to the world, its forces, and its intelligences came a cry of terror: high, but cut short as though the shock of entire realization had paralyzed the throat. It sounded from the tropical gardens. A low, mumbling snarl followed, not of wrath, but a promise of destruction.

Cromer's color changed. Understanding came to Logan.



OUT IN THE gardens, where foliage masked the stark fronts of steel cages, Oscar and Diane had been making their rounds. They had tended to the animals, paying all the

while a good deal more attention to each other than to their task. Once it was done, seductive moonlight lured them to each other's arms.

Moonlight, reaching through palm fronds, made a dappled pattern; light and shadow camouflaged the two. Eye tricking, enveloping, screening patterns: and, lip to lip, the two made a small world, a heaven and earth of their own creation, a small eternity measured in kisses.

It might have been sound that shattered their universe. Again there may have been direct perception of the force radiated by the creature which flowed out from its cage, scenting prey and moving to stalk it.

One of those impossible things had happened; the cloudy tiger had escaped. The animal was well on its way, in reversed evolution, to the *macherodus*, the sabre-toothed slayer who had vanished millenia ago.

Oscar, chilled by sudden awareness, thrust Diane aside as she screamed needless warning. Rustling leaves screened her. Whatever else might have happened, the tiger responded to the note of panic.

Oscar snatched the empty pail he had set down by the bench, and straight-armed it, catching the tiger squarely between the eyes.

"Get going!" he yelled, as he vaulted the flimsy barricade.

He was too busy moving to have any thought for the futility either of flight or fight. The beast gathered itself for the lunge; long fangs gleamed like lanceheads; the eyes were phosphorescent, then red, from the changing play of moonlight. Oscar's tree lore had been submerged by evolution. There was no tree near enough, even had he had time to get Diane to any such vantage point.

Seize the bench as a weapon a little better than empty hands—or, use it as a barricade?

He did neither.

The man who pounced into the full moonlight came as though to intervene.

The tiger's lashing tail became motionless; the head shifted. The animal sensed danger.

Eric Logan had speed and coordination to match his over-evolved mind. He had a hatchet; he leaped and struck. Tawny fur mirrored moonlight. Logan was clear, untouched, perfectly balanced. He chopped again. The tiger lay kicking and twitching. The first stroke had severed the spinal column.

This was done as Doctor Cromer hove into view.

Oscar dropped the bench. White-faced, moving like a zombi, Diane came from cover. Logan said, "Doctor, I think we may as well dispense with the coordination checkup you proposed."

He retraced his steps. To wait for words from the others would have spoiled the scene.

For a long time after Cromer left them, Oscar sat with Diane in the garden. He sat apart from her, looking at the moon-drenched ground, the spilled blood, the splendid carcass. His posture was somewhat of a crouch. Finally Diane came near enough to lay a tentative hand on his arm. Her touch was diffident; she knew that she was intruding.

HE TOOK her hand, laid his other hand over it, caging it. He got up. "Help me pack my things. Not that I need help, or need to take anything with me."

"Pack?" she echoed, bewilderedly.

"I am not going to college; I am going to enlist at once."

"Oh, darling, but why?"

"I fumbled, somehow, or that cage could not have come open."

"Good Lord, you can't think that I blame you! You don't know; no one will ever know who or what caused it."

"Honey, it isn't that. I am living on borrowed time. The tiger would not have got you; I was nearest. The only way I can get my life out of hock is to gamble it intentionally—and win it back."

Comprehension widened her eyes. She regarded Oscar now with wonder, instead of merely affection. "You're too proud to owe your life to Eric?"

"It would not be worth it."

She could not say, "Eric made that move for me," however much she knew that to be the truth. All she could say was, "Must you, really?"

"There is no way out of it. I cannot kill the man, and I cannot owe him my life. Simple, isn't it?"

Eyes brimming with tears, she looked up. "Too terribly simple. And right now, after—after we finally found each other."

"I'll be back," he declared, confidently. "There'll be the bombing and the usual show. Maybe this time, not enough of *them* will survive to try again. Some of us will. And all debts will be paid. The tiger got out of his cage, and I am getting out of mine." And then, later, when she went to the gate with him, "Tell Doctor Cromer why I left; he'll understand."

With a ground-eating stride, Oscar set out. He had Diane's small suitcase, lacking one of his own. He did not look back until he came to the angle of the road. He caught the whiteness of her arm as she waved in answer. He saw her turn against the gateway, face buried in the crook of her arm. He paused, then resolutely resumed his stride.

"One thing the superman cannot do," he said, aloud, as he tramped toward the bus stop. "He cannot trade on having saved *her* life; he saved mine, whether he wanted to or not." Oscar grinned contentedly. "The gigantic mind slipped; he should have waited another second."



OSCAR DID not have to wait long for action; he got it before his political, social, and cultur-

al indoctrination courses were completed. And as the bombs dropped, he reasoned, with simian logic, that it would have been better had he and his comrades been taught how to fight, instead of being briefed on why they would be fighting, and what for. The first contact with the enemy paratroopers gave every soldier an urgent reason for fighting, but the occasion was instructive only to the survivors.

When the newly-developed force-projector was finally issued to the ragged remains of Oscar's company, he proved himself handy enough. It was a neat weapon, and came in two models. One was for precision-sniping, with a compact, built-in base line and radar, for night work. The other was for fire-volume, rather than accuracy. The bullets of either weapon functioned by causing a limited molecular fission at the point of impact. Personnel within a radius of a yard or so were blasted by the explosion and fried by the heat radiation. The neat thing about it was that there were no dangerous by-products to harm the troops as they closed in on their target.

All that Oscar knew about the big stuff, the self-steering bombs, was that they reduced a city to a deep crater, rimmed with twisted junk, and lined with a hard glaze: the fusion of earth and of certain building materials. Most of the cities north of latitude forty existed only as map coordinates. This destruction did not end the war; it was merely the signal for the real business: men afoot, smoking out the invading paratroopers. The war did not start until, according to long established theory, it had been wholly lost.

The first weeks had been tough, going in and getting them with old fashioned carbines, flame-throwers, and grenades. The new force-projector had not been issued until the advancing invaders had gone as far south as latitude 35 N. 40, on a line reaching from coast to coast.

Until Oscar's company got the new

weapon, he had been quite too busy retreating to be lonesome. But after the first successful counterattack, in which they took an objective littered with smoking morsels—prisoners were no problem at all—Oscar counted noses. Of a company that had numbered two hundred originally, only fifty-two had gone into action that morning. Now, with its first victory chalked up, there were still fifty: and after what had been virtually a massacre of the enemy.

The sergeant, the only sergeant—there had been no officers for weeks—was nearly as broad as he was tall. His leathery face was as elegantly-shaped as his body. A bull bitch or a female gorilla would have fainted had any of her offspring resembled Sergeant Quaddy. He did not even have a pleasing voice; the only good thing about it was that it carried, and that his enunciation was clear, as his thinking. Though his I.Q. was not high, his mind was singularly logical, and untainted by ideals.

ONCE THE mopping-up was over, and the fragrance of self heating rations masked the savor of scorched enemies Oscar said, "Sergeant, we could have murdered those slobs to the last man, weeks back, if we'd had these guns then. Most of my buddies would be here and ready for another whack at it, tomorrow." He blinked, wiped his eyes with the back of his grimy hand. He coughed, and avoided Quaddy's grim gaze. "Look at the model-date on this projector; it'd been invented and perfected long before the invasion. Why didn't we get them in time?"

"Don't talk like a damned ape!" Quaddy growled. "With strikes, and a five-hour week, how could they be turned out fast enough? Quit beefing; you're here, and we are winning. The enemy has no place to go; he's got no home left. He was let down worse than we were. Now shut up— I'm recommending you for a decoration.

"Everyone that did work overtime was printing indoctrination booklets. You big clown, you know why you're fighting, don't you?"

Automatically, Oscar recited that which no amount of battle could dislodge. "*We are fighting to protect the Bureaucratic way of living. We are Crusaders to spread the Light of Bureaucracy among—*"

Quaddy thrust a pack of cigarettes at him. "Stuff one of these in your face and quit beefing. I said you'd get a decoration!"

There was a strong humanitarian movement down in the undevastated areas. The proposal was to drop propaganda leaflets to induce the invaders to surrender. Good food, good quarters, good indoctrination in Bureaucracy: social security, and an abundant life. This was squelched only when it was conclusively shown that to feed the invaders, rehabilitate them and their blasted homeland, would impose upon the entire nation an eight-hour week—and for generations to come. Actually, the few realists—civilian and military—knew that extermination was the only way to prevent another war; the enemy could not be rehabilitated except through musketry—but they dared not express themselves in any such repugnant terms. So, they terrorized the public into the necessity of exterminating the fanatic invaders.

Despite efficient weapons, and the enemy's insufficiency of supplies—they had enormous caches dropped during their days of victory, and many more that had been awaiting their arrival, having been planted by sympathizers—mopping-up was slow work. It became all the slower, and somewhat more costly, because idealists smuggled some of the new weapons to the harrassed enemy. Several idealists, nabbed by Federal police, made pre-mortem statements which boiled down to this: "*It would make us a nation of barbarians, shooting them down like animals. They deserve a fighting*

chance." And, "*It really is not their fault. Their philosophy is splendid. It was merely perverted by their leaders. We could, if we tried, come to an understanding with them.*"

Eventually, Oscar got an acre of decorations, and a number of superficial wounds. His outfit was finally taken out of the "hunt and kill" area, and sent to the rear to recuperate, and receive replacements. Including Sergeant Quaddy, there were thirty-nine survivors of the original two hundred.

"We're all going to get a leave, as soon as we have another parade, face the public-relations officers and the cameramen, and get some more decorations."

Oscar said something obscene about decorations; in specific terms, he suggested a use for which decorations had never been intended. "And they can do the same with the cameras!"

"Got a girl on the brain, huh?" Quaddy demanded. "Well, keep your shirt on. Our papers'll come through, any day. And, back pay."

Back pay did pour down, finally. However, the orders for leave were snarled up. "Take it easy, take it easy, men," Quaddy told his outfit. "It'll be just a few more days. Then we'll be screened for loyalty; that won't take long."

OSCAR WAS too sceptical to wait; he went over the hill. After months in the face of the enemy, MPs were no problem. Nothing was a problem. Nothing was important but seeing Diane, to tell her that his life was his own, as far as Logan was concerned. Then, he was worried.

Logan must, by now, be a high-ranking general, and Diane was only human. That Oscar had not heard once from Diane—not even an acknowledgement of the receipt of her suitcase—was not as ominous as it might have been. Hardly anyone ever received mail, except someone else's; censorship and snarlups did it. Oscar

had received announcements of the birth of eleven sons, and nine daughters, and summonses in five divorce suits; he wondered who had been getting the letters Diane had written him.

While the MPs were no problem, the civilian population was; Oscar griped when he had to pay \$3 for a pack of cigarettes.

"Mister, don't you know there's a war?" the man had asked.

Instead of indicating his conspicuous three pounds of medals, Oscar knocked the man cold with a bone-cracking punch, and moved on. The second time someone wondered if he had heard about the war, Oscar bought himself civilian clothes, stuffed his uniform into a garbage can, and continued his way south.

He found Diane at the installation. All jobs had been frozen; no one had paid any attention when she pointed out that her work had no defense value, whereas she was qualified for service as a nurse. "Meanwhile," she said to Oscar, pointing to a heap of papers, "there were full-page ads, crying for volunteers. It seems that my being tagged as 'laboratory worker' jinxed everything, by making this job essential-seeming."

"Where's Doctor Cromer?" he demanded, when the first impact of reunion had tapered off, and it was once more natural to realize that Diane was a woman, and not merely an idea.

She sighed. "He was arrested."

"Those damned loyalty tests!"

"Oh, no, darling! Someone exposed the infant adoption ring. That settled Doctor Cromer; not even his purpose to evolve adult chimpanzees, on a production-line basis to fight the war, did any good. He'd actually stepped up the evolution machine so that change could be made in a few hours.

"The synthetic infants were really more highly developed than their foster parents, but that didn't help a bit. It created a frightful problem. What to do with them."

"Do?"

She shuddered. "They weren't considered human in fact; a sort of abomination. There was a proposal to have them all gassed. Just suppose, they said, they'd grow up, looking and acting exactly like humans."

"That would have been bad," Oscar said, with a double meaning that seemed to have eluded Diane entirely. "Were they gassed?"

"No, The S.P.C.A. intervened. They got an injunction; now the other side is pleading that the injunction is illegal."

"Speaking of evolution," Oscar resumed, "what happened to Eric? I was worried about him, and his chance of beating the draft—being here with you, playing up the rescue somehow or other."

Diane laughed happily. "Oh, darling, I'd forgotten! Of course you don't know; you didn't get my letters. Well, he went to enlist, the very day I told him and Doctor Cromer what you had done."

"The devil he did!"

"He said that you had been diabolically cunning in volunteering. That you had put him into the position of staying here with me, to play up his heroism. It was the cleverest thing, even though you didn't realize it at the time. Oh, you're marvelous!"

"Bet he became high brass overnight."

She shook her head and with genuine pity. "You know, I liked Eric, in spite of his being such a conceited ass."

"Spill it, honey, spill it! What did his I.Q. get him?"

"Got him locked in a psychopathic ward. He told them how to win the war. Proved that he and a thousand more like him could do the job. Or, given command of a division, he could do it himself."

"I think he could have. Nothing I've been through ever scared me the way the sight of that tiger did; no human ever came within a mile of Eric's headwork and coordination. Locking

him up is just about proof that he must have been right."



They walked about the grounds. Oscar looked at each animal and reptile. Because of meat-rationing, the carnivora had been gassed—this despite the availability of sea food, which the civilian population refused to eat as a staple. They were going to have a bite to eat in the kitchen when Oscar said, "Let's go to the Palmetto, and dance, and watch the moonlight on the water. Lord, Lord, that's been a long time ago."

"Oh, that'd be fun!" Then her glow faded, and a shadow darkened her eyes. "I wonder if we really should. Oh, let's stay home."

"Why?"

"I don't know, Oscar; maybe I'm just dopey from letdown from all the excitement."

"Come on, it'll be fun."

So they went.



THEY DANCED at the Palmetto. They lolled on the beach. They spoke fondly of Cromer: and with kisses to sweeten every thought, it was easy for them to think well of Eric Logan. "Funny," Oscar mused, "now that I've bought my life back, I'd even like to take a couple of beers with Eric; we owe him a lot. You know, when they let him out of the booby hatch, he ought to take the reverse evolving process, and get back to normal."

Diane sighed. "I'm afraid he couldn't stand it."

"The hoarders and chisellers I met along the way home," Oscar resumed, "made me think how the chimpanzees were a lot more human. Even a parrot

that's learned to say, *Don't You Know There's A War* is likely to think of a new one, or an old one, once in awhile."

It was all amusing now; the papers furnished comic relief. The press correspondents, it seemed, met only the primadonnas of the front, and never a Sergeant Quaddy.

Oscar was thinking, the following morning, that since he was AWOL, he might as well make a job of it. "We'll get married," he said to Diane, "and we'll be honeymooning until the show is over, and they've pardoned all the draft-dodgers. I had a lot of back pay. And on my way home, I got into a few games and won more."

"That'll be wonderful, darling. All the more so, after last night; we'll turn the animals loose, and move on."

But Oscar and Diane had not yet done the breakfast dishes when there were visitors: a pair of MPs.

"Oh, good Lord," she said, in a voice small and tight and with dismay. "Why didn't we leave last night!"

Oscar shrugged as he watched the pair make for the door. "I shouldn't have taken you to the Palmetto. Either I talked too loud, or someone recognized me—the owner, it couldn't have been anyone else—and saw a chance to collect the reward for turning a deserter. Don't worry too much honey, they look like good Joes."

He knew very well they were not; there was no chance of bluffing the MPs, or talking them out of it. They had him nailed, AWOL, and not in uniform. It was likely that they counted on getting a kickback from the reward, which only a civilian could collect.

Oscar brought this point up, casually and pleasantly. He added, "You can collect a whole hell of a lot more from me, if you are smart, and play it right. You can always tell the fellow at the Palmetto that he loused it up—and slug the spots out of him if he beefs. Or, give him a cut from what

you get from me. Don't be a jerk and spoil a good thing. What are you dopes getting out of your job except pay, and a bit of graft that's strictly chicken?"

This was civilian talk—the kind they really understood from rear area service. The corporal and the private exchanged glances. One, eager; one, wary. "How about the provost marshal?" the former asked his buddy.

That exchange of questions was what Oscar had played for. He used the commando training, belatedly given, for missions in which modern arms could not be employed, because of danger to fellow users. He knocked the two heads together, and then, without pity and without anger, reduced the two to a state of coma from which they would not recover for several hours.

"I wish," he said, wistfully, as he eyed his prisoners, "that I had the owner of the Palmetto here. He'd look nice, this way. And he was such a friendly chap, remember? That first time. The sort of man who seems to love the whole world and all humanity. War seems to do something to people."

He tied and gagged his unconscious opponents. "Honey, you be packing up," he said, "while I turn the animals loose."

THOSE that had not come within the orders for destruction of all carnivora were freaks, yet not a menace to anyone who might find them, and fancy that they would make unique pets. The loss of even a finger would enlighten the curious. Meanwhile, these creatures would find all the isolation they needed, and a congenial climate, in the Florida swamp lands. There would never be a bomb to disturb them; the country was not worth bombing. Remembering what he had seen up north, Oscar's appraisal meant that this was truly the Lord's country...except for civilians...

When he had done, he went to find Diane.

"You are sure you really want to go through with it? It won't be easy, honey; we'll be on the dodge. Somehow, being a deserter is considered far worse than being an idealist who favors the enemy, or a conscientious objector, or a fellow who blocks the production line. You'll be in for something."

His mood sobered her. However, the gravity of her face enhanced the glow in her eyes as she said, "To the finish, my dear. I've had my fill, too. We'll pull through—though I'd go anyway, regardless. We'd be foolish, waiting for the fine new world someone else is going to make for us, when we can make our own, now."

Her voice thrilled him to a new peak. "You wait a second," he said. "We're going to drink to that; right now. I remember a bottle Doctor Cromer kept in the lab. He liked his little nip."

Oscar took quite awhile. He was solemn when he returned with the bottle and glasses, and a small bottle labelled, "Bitters."

"Still mean it?" he asked, and at her nod, he turned slightly, saying, "Get a twist of lemon, will you? This'll be like the old man used to toss off."

He put "bitters" only in one of the glasses.

"To the finish, darling," Diane proposed. "I died too many times, all those months, with never a letter, never a report, never anything, after my suitcase came back."

"So did I," Oscar said. "But somehow, I believed. In you. Oh, I worried, too, but still, I believed. And now we won't come back. I've got it all figured. It'll be tough, but we'll always be together."

"Together, darling," she said, and they drank.

He caught her as her eyes went out of focus, and her head wobbled. She would be out for hours; he bundled her in his arms, and carried her to the laboratory.

The thought which now had charge of Oscar was one which, unrecognized, had lurked for a long time under the surface.

Without fully understanding the theory of the evolutionary control, he nonetheless knew more than enough about the mechanics of it and the practice. He set the switches, and turned on the power. He got the bottles of synthetic hormones. The enormously accelerated process which Cromer had perfected would now serve the needs of the occasion.

It was not difficult to get the unconscious girl to swallow a sufficient quantity of the compound. He set the automatic timer.

"We know better than Eric," he said to himself and his companion, as he carried her into the radiation cabinet in which he had evolved to collegiate standards, and to something higher: combat infantryman, first class—the insignium of which he valued far more than any of the decorations.

The MPs could liberate themselves before they perished. If they could not get loose, the provost marshal would come looking for them, in due course. Embarrassing for the poor devils...Oscar grinned contentedly, though the hum of laminations, and the biting of the rays made him drowsy, so that the grin sagged at the corners. His final perception was the softness of Diane's hair, and the roundness of her body....

●

WHEN THE MPs regained consciousness, they faced a struggle. They had been expertly tied. For hours, they alternated in praying for the arrival of a search party, and being grateful that none had come to seek them. During their rest periods, they cursed each other, and themselves. Again, they planned the yarn that would account for their absence, or account reasonably for Oscar's escape; the marks he had left on them would make explanations difficult.

Late that night, they got loose. They drank from the garden hose, then collapsed from exhaustion. Dawn awakened them. Aching and stiff, they could barely crawl. Finally, having regained control of their limbs, they drew their guns and went into the house.

They were still too muddled to realize that if Oscar had intended remaining, he would have taken their weapons—

They found food; they found liquor; found a suitcase packed with a woman's garments. For the rest, they found only vacancy, and heard only the echo of their own footfalls. There was no lamination hum....no whirling....no ticking as of a metronome....

"Car's here," the corporal grumbled; "these are the keys for it. Some things cockeyed."

They searched the jungle garden. Enough tracks might sustain a yarn of having been ambushed by the lurking deserter. Once prints were established, the corporal put on the man's shoes he found in the laboratory, and made tracks to substantiate the imaginary drama he and his buddy were going to enter into their report.

The job was done when one exclaimed, "Well, can you tie that!" "What?"

"Up in the tree, dope! Two monkeys, and one of 'em wearing a bra and a girdle. Well, I'm a son! Putting on lipstick!"

The other chimpanzee was eating mangoes, and offering some to his mate; she brushed his hand aside, and opened a silver compact.

The corporal cursed. He drew his pistol and fired a couple of shots. He did not intend to hit the animals, and he did not. It made him feel better to see them leap for cover, and find it, in the thick foliage.

"Oh, to hell with it! Let's go and face it out. You'd never thought that dumb ape had it in him, cold-caulking the two of us, that way."



Readin' and Writhin'

Publishers are requested not to send fantasy selections to this department, as the volume of science-fiction books fully occupies the reviewer's time and space.

EVERYONE who picks up a science-fiction magazine and enjoys the contents isn't necessarily a scientist, professional or amateur, or even a person with an active scientific background—although, as has been stressed frequently, many science-fiction readers and fans would fit that description. Since Hiroshima, there have been a number of books on the life and times of atomic energy—such as John W. Campbell's "The Atomic Story"—but all of these that I had seen, had been far too technical for my feeble wits. That is, they all required a reasonably-thorough background in mathematics, and a fair amount of physics, chemistry, etc.

Now it's true enough that each one of us is a unique individual, in that there is no one else *exactly* like us; but it's also true that none of us are so absolutely unique that no one can be found who bears any resemblances whatever, or who shares no characteristics whatever. So I think it's a safe assumption that there are a reasonable number of persons, like myself, who are interested in reading about the subject of atomic fission and fusion, but who get lost rapidly once the formulae, diagrams, etc., are shoved before us. We want a simplification, but not the Sunday-supplement type of oversimplified falsification.

It's a pleasure, therefore, to announce that I've just read a book which fits my own requirements admirably: "It's Your Atomic Age", by Lester del Rey.

"I've tried to cover most things," the author states in his introduction,—"many of which I have not found adequately treated in the average popular book—but I've had to do so at the risk of neglecting the reader who really likes complicated formulae and a host of statistics and

physical laws. ...In a time when so much must remain secret, some of the facts are not available, and others have not been established with any degree of scientific accuracy. Hence, I've probably committed errors in some figure or other. My chief interest has been in making sure that the *ideas* were correct, and presented in a way that can be grasped fully and easily." The book is meant for "the man who reads a newspaper and gets a vague conception of atomic power, without being able to put it together into a whole picture."

I think del Rey has succeeded, and if reading this book arouses your interest in going further,—well, that was one of the aims; if you're satisfied to stop there, then what you read in the papers will have more meaning for you than before.

And I'm glad to see a few myths exploded, as painful as it may be to some science-fiction fans. I refer to the "monster" and "superman" myth—the fantastic mutations in humanity which were the subject of a few excellent, and many routine, tales appearing in 1927, 38, 39, etc. The stories, unfortunately for prediction-value, fortunately for accuracy, were based on overextrapolation upon too little basis. As del Rey points out (and as John Campbell noted out at least five years before Hiroshima) mutation is not a process which was suddenly introduced with the dropping of the Bomb; it's been going on all along—hemophiliacs are cited as an example—and most instances that we are aware of take the form of *very minute and gradual developments* in human beings. It's spotty, and "freaks" appear constantly; but the majority of the latter do not survive long enough to be exhibited. (Also,

[Turn To Page 125]



Laril tripped the Earthman by snapping two tentacles around its thick ankles...

EXTRA - SECRET AGENT

By H. B. Fyfe

Laril was a secret agent, so secret that he didn't know his mission. But there was an even more effective colleague on board this ship with him — the most effective possible of secret agents!

HALFWAY through his first meal on the SL4-552, Laril decided that he had made the blunder of his life in leaving Mars on that rocket. His having been the only air-and-safety technician at the agency now seemed small excuse.

He wondered why the looks of the old can had not outweighed the lure of a few easy credits for the short hop to Sol III. Unable to think of any good reason, he pushed aside the cold, synthetic food with a disgusted flip of his front tentacle.

Laril supposed he should have expected this when he had found that more than half the crew of twenty were Procyonites. The rest were mostly Solarians from Earth. He had heard even one of these complaining about

the quality of the food when drawing rations at the supply compartment.

"Zzznnn!" Laril buzzed gloomily. "Procyonites are known for lacking all taste, and Solarians are almost as primitive. When one of *them* complains...! What was wrong with me?"

He thought longingly of his home on bleak Capella VI, where food was considered worthy of careful preparation. These stingy Procyonites were carrying things too far, even for space rations; he wished he could bring himself to eat publicly with the pack of Earthmen, whose gabbling might distract him.

Giving up all hope of hunger-satisfaction till they should reach Luna, Laril rose carefully in his crowded compartment. He stood about two

Novelet of Interworld Intrigue

meters tall on four many-jointed legs, the muscles of which bulged stringily under the fine, olive scales. His four antennae reached an extra half-meter. These grew from bases around his head, one above each eye, and divided and sub-divided repeatedly into extremely delicate tendrils.

His body, slim like the narrow head, was loosely draped in a shimmering red tunic. The extremities of his tentacles, divided at the ends like his antennae, were at the moment groping for grips about the small compartment.

Hope they put the ship into spin soon, he thought, so one may at least walk!

Being in charge of much equipment, Laril was privileged to live in privacy with it. He hooked up his sleeping net, climbed in, and fastened the opening lest he float out. "Next watch," he promised himself, "I must make a better check on that rocket compartment. Why do I feel uneasy in it?"

His active mind presently relaxed in sleep permitting the other section of his Capellan brain to lapse into reflection—the equivalent of dreaming, or memory-searching, found in Earthmen and most other intelligent life. Under suggestion from the last waking thoughts, Laril's reflective mind began to assort memories concerned with the stern compartments.

He had not felt comfortable when analyzing the air in the rocket compartment, although he had made an external check of the tubes before last night's takeoff. Had there been anything wrong? No...although he remembered that one of the big tail fins showed signs of slovenly repair work.

PHYSICALLY asleep, Laril was unconscious of allowing the tip of a tentacle to slip through the net and twist one of the bolts holding the supporting hook to the bulkhead. From the seemingly solid head of the bolt, a tiny light flashed upon his rear eye,

which opened involuntarily to read the winking signal.

*You will forget until it is time!
Your reflective mind will remember
then, not before!
You will feel when you have found
it!
Guard against discovery!*

There was a stealthy movement in the corridor outside. Laril twisted the bolt; the light vanished. Then he awoke.

"Laril!"

It was a Solarian voice, which he heard as being musical in a deep, resonant fashion. He heard the Earthman talking to itself in annoyance; no doubt, it had trouble progressing along the gravityless passage on only two legs.

"You Laril?" demanded the Earthman, thrusting its head inside.

Laril's active mind was now awake, and he would not have believed he had been hypnotized had someone told him. He admitted his identity and took stock of the other.

The Earthman was almost his own height. That meant it was slightly longer than a Procyonite but instead of supporting a pudgy, blue-gray body on six short limbs, it stood upright. Where the tentacles should have been, and where the Procyonites had two extra, modified legs, the Earthman had two smaller limbs resembling its legs. It looked powerfully-muscled where the limbs joined the body, which made the blunt head almost proportional. All visible sensory organs were crowded to the front—Laril thought that clumsy—and what showed of the skin was smooth and pinkish white.

The Earthman wore blue, grease-marked coveralls and a belt with a gaudy, bejeweled buckle. This Laril rather liked for its color, but he knew other Earthmen would call it "cheap."

"I'm Bulloch," said the Earthman; "Captain wants a report."

"I shall send it presently," Laril

replied. "Tell him there is no damage and the air circulation is normal."

Bulloch departed in the direction of the control compartment, wishing loudly for the ship to be put into a spin. "If that shivering, hairless centipede can settle down!" it muttered, grabbing for a guide rail.

Laril was not clear as to what a centipede might be, but he suspected vituperation. Reminding himself to awake at a certain time, he returned to his rest.

*You will forget until it is time!
Your reflective mind will...*

DURING the following watch, Laril set out to make a more detailed check of the ship. On his belt, he hung a pouch with an assortment of meters and minor tools. Leaving his compartment, he paused, enjoying the slight gravity effect of the spin now upon the ship. "What am I forgetting?" he asked himself.

He returned for his special set of deck plans, but even that addition did not relieve his vague worry. He buzzed softly in annoyance, and went out.

He decided to begin in the rocket compartment. Two Earthmen were there on token duty, cleaning up amid the piping and metering mechanisms that delivered fuel to the rockets. Laril found no signs of structural strain, nor any indication that the Earthmen had polluted the air with their peculiar vice of *tobacco* burning. He left the compartment as soon as possible, wondering at his uneasiness while there.

"Think we'll make it, Octo?" one Earthman called.

"Why should you worry?" countered Laril, thinking of the forty-six lightyears to Capella. "You are nearly home now."

He worked his way slowly forward past storage-holds, crew-quarters, and various nooks into which were tucked mechanical necessities. At only one point did he encounter trouble, and it was not mechanical.

"Cargo compartment, nobody allowed!" a Procyonite squeaked, aiming an eyestalk at Laril as the latter tried to slide open a door on the main corridor.

"Have to check air circulation," Laril protested.

"Don't know. Nobody allowed. Ask captain!"

"Less work for me!" retorted Laril, flicking a tentacle-tip at the other, who shivered in annoyance.

He went on about his business. When he reached the control compartment, he found only a pilot and an astrogator. The pilot was a cold-eyed, reptilian Centaurian resembling a dark gray, long-legged lizard. It glanced at Laril without visible interest and relapsed into statuesque immobility. As was sensible around Sol, the astrogator was a Solarian from Earth. It was more friendly than the pilot.

"You might take a look at that ventilator," suggested the astrogator; "something's loose and clanking in there."

"Loose grill," Laril reported presently. "They tell me not to enter the cargo compartment. Why?"

The pilot flicked him a bored stare, but the Earthman shrugged. "Some whim of the captain's, I suppose. Not that we carry anything very precious, as far as I know."

Laril saw by the name-tag on the cap that the Earthman was called Rowley. He suspected from its expression that Rowley had little admiration for the captain.

He promised to repair the air vent later, and withdrew.

Walking slowly back toward the cargo compartment, he examined the side passages. His particular set of deck plans emphasized the breathing system of the ship, and he used them to orient himself.

Sliding open a door on a side-passage, he stepped into a cubicle used to store instruments and small tool parts. In a few moments, he had located the grill over the main air-duct

passing this compartment, unfastened it, and pulled himself into the opening. He discovered that he was not too tight a fit, and could pull himself along with his tentacles.

"Lucky not to be all joints, like a Solarian," he murmured. "Knowing Procyonites, I think it as well to see if they smuggle something—drugs, even robotin, for instance."

He passed several small, secondary ducts leading to various compartments. When he reached a group of four vents, he checked his deck plans. Yes, the cargo compartment was here.

He saw that one of the openings had been welded shut. *Illegal*, he thought, *but maybe that consignment of Martian wine they talk about is really expensive.*

The second section he discovered to be crammed with soft, fantastically-thick furs; the third he was able to enter by removing a grill. He found a shipment of archeological specimens ranging from metal implements to what might have been bones. Most were packed in light containers of transparent plastic. He moved to the fourth compartment.

This could take time! he thought, seeing the contents.

These consisted of a number of minor consignments which were not packed uniformly. He delved into his reflective mind as he crawled between the securing nets, trying to remember the characteristics of robotin. Light, bulky powder, probably.

There could be little or none here, he decided after hefting a few bundles. He certainly did not feel like burrowing to the center of each netful to make sure.

SOME INSTINCT impelled Laril to return to the third section. "Not much use in this," he told himself, edging between the nets of plastic bags and boxes. "Unless—could there be something mixed in that plastic?"

Impatiently, he dismissed the idea and glanced with a side-eye at a col-

lection of small, ugly statuettes. He started to move on, but something about these objects held him against his will. No doubt, they represented some form of life, but *which*, Laril was not sure. The nearest parallel he could recall was a hideous temple image he had seen once on a planet of A'lar. "Well, they can't be made of robotin," he decided.

He tore his attention from the statuettes, which were fascinating despite—or perhaps because of—their gruesome distortions. He had somehow lost interest in further search. "Stupid, anyway!" he droned aloud. "I'd better get back."

Finally, he reached the opening by which he had originally entered the ventilation system, and pushed his way out into the instrument compartment. He picked up the grill and deliberately fastened it in place, ignoring the Procyonite who stood watching suspiciously.

When the grill was secure, Laril took out his pocket-recorder, glanced at one of his meters, and dictated a few numbers. The Procyonite stood quietly on its four lower legs, occasionally twitching an eyestalk or shivering with the drug-induced nervousness that made all its kind seem perpetually chilled. Laril completed his little act.

"I am Tseel," the watcher introduced itself in the high, twittering speech of Procyon's planets. "Captain will see you now."

"For what?" inquired the Capellan.

"Captain," insisted the other, fluttering its atrophied forelimbs in supposedly enlightening gestures. "Now. You and he. See. Talk."

"I got your first story," Laril buzzed disgustedly.

He could not quite believe that these crawlers were as stupid as they often acted. This one, especially, seemed none too bright for space work, he decided as he followed it toward the control compartment.

CHAPTER II

WHEN THEY arrived, Tseel engaged in a whistling exchange with the Procyonite captain. The same pair were still on duty as astrogator and pilot.

From the Solarian's expression, Laril deduced that, although Rowley disliked Procyonites and even found their speech unpleasant, the astrogator was listening intently. It could do this undetected, while seeming to scan papers on its desk; for its external auditory organs—flat, crinkled appendages clinging to the sides of the head—were nearly immobile.

The captain turned on Laril. "You inspect air ducts? Where you go?"

Laril gave a carefully-censored account of his inspection, stating that the air was at the best pressure and composition, considering economy and the varied requirements of the crew. The captain wanted to check the stored instruments; it called the crewman in charge of the cubicle, the Solarian Bulloch, and led the way to the spot.

Tseel pointed out the grill Laril had removed. The conversation was squeaked back and forth too rapidly for Laril to catch more than that the captain wished the air duct examined. Bulloch, after loosening and removing the grill, helped Tseel to climb into the opening.

As they waited, Laril was reminded of the robotin he had expected to discover in the cargo. Was it imagination, or did his antennae sense the presence of the drug now? He let his uppermost tendrils undulate gently and inoffensively. Yes, by the Five Spirits! The stimulus came from the direction of the captain! Like half of the inhabitants of the Procyon planets, it must be an addict. Still, that hardly proved that a large quantity of the drug was being smuggled.

Of course, Laril reflected, they

might be trying to slip by with a small batch. Earthmen were notoriously touchy about the transportation of narcotics in their system, which Laril considered officious. After all, Earthmen were generally less susceptible to robotin than most people; was not its use for those other beings to choose or reject? Their attitude, he felt, was just another aspect of that arrogance which led them to call themselves "Earthmen" instead of "Solarians", as would be proper.

Tseel reappeared in the opening and climbed head-first down to the deck. It answered the captain's questions just slowly enough for Laril to grasp that marks of his little trip had been traced to the cargo compartments. The captain turned to him. "So you are agent of Solarian police!"

Laril wondered at his own reaction; his muscles had tensed involuntarily. Discreetly lowering the eye away from his questioner, he noted that the branching extremities of his tentacles had clenched into knots.

Why should that be? he asked himself.

"An agent of what?" he demanded, relaxing deliberately.

"Have ever been on Sol III?"

"I think so," said Laril, trying to remember when.

"And never heard of their Narcotics Bureau?"

Laril searched his memory and denied frankly that he had. "What is it?" he asked, feeling vaguely that he should know.

The captain appeared agitated. The wrinkled, bluish-gray skin of the round head darkened. The eyestalks twisted wildly, and small muscles twisted and shivered along its flanks.

"How dumb can they come?" demanded the Earthman, Bulloch. "The reason we wanna know if—"

The captain interrupted with a shrill squawk of reproof. Laril wondered if he might not have heard the name after all. It had an elusive ring of familiarity. *Something's wrong*, he

thought. *I can't seem to think clearly!*

He awoke to the fact that the two Procyonites and the Earthman were regarding him intently. His antennae warned even more urgently of the presence of robotin.

LARIL tried to leap aside as the captain made a sudden lunge at him. With one eye, he saw that the other had produced a tiny hypodermic needle from the pouch it wore on a narrow belt. Laril lashed at it with his nearest tentacle.

The captain whistled in anger and retired out of reach; the other two threw themselves at the Capellan.

He tripped the Earthman by snapping two tentacles around the thick legs, and pushed Tseel off with another. The latter reared high, pawing for a hold with stubby limbs. Laril braced himself on three legs and kicked the Procyonite heartily in the belly.

As Tseel thudded against the opposite bulkhead, Laril shoved the captain off-balance toward the doorway. He met Bulloch's new charge with a kick at the thick part of the body, causing the blunt, crowded features to contort with pain.

Then one of the clumsy, jointed upper limbs swept aside his tentacle and the other struck at him. The surprising force of the blow carried Laril back toward the exit. He tried to wind tentacles about the Solarian's limbs. With his rear eye, he saw the captain run in, low to the deck on all paws. Laril lifted one foot to kick, but the Earthman's thrashing about spoiled his aim. He felt a sharp sting in the leg...

Laril relaxed helplessly. Bulloch broke free, and seemed to stand there peering at him out of malignant little eyes for an interminable time.

The Capellan's conscious will retreated within his reflective mind. He succeeded in his effort to view the scene with detachment, yet there was

a paradox. Visible action was impossibly slow. Then, abruptly, the rate of motion changed.

Robotin effect, he thought, remembering descriptions.

His trouble was that he observed through a sensory system affected by the drug, no matter how calmly his inner mind analyzed the information reaching it. That same inner ability, however, gave him an unsuspected advantage, should he be able to employ it. He felt perfectly capable of concentrating, although his sense of time was confused and erratic. He wondered to what extent the robotin might destroy volition. He had heard that with other beings it muffled all will-power.



In a few minutes—or perhaps hours—he learned.

The captain and Bulloch appeared to the drugged Capellan to scurry about with frenzied speed, replacing instruments in their proper places and reviving Tseel. Laril suffered an infinite period of anxiety when the discomforted Procyonite hovered before him, glaring with pop-eyed resentment into the Capellan's front eye. "Now," said the captain, pushing Tseel aside, "we question!"

The words dragged out impossibly, although the voice remained shrill. Laril's sense of speed had wavered.

Automatically, he answered the questions. He congratulated himself as his reflective mind withdrew to consider the replies detachedly. Yes, he told them, it was probably true he had never heard of the Narcotics Bureau of Earth. *Probably*, his inner self noted. He felt he had been on Earth, but *had* he?

This was perfect, he thought. Sure enough, they could not reach his inner mind with the drug, just as foreseen. They would get nothing out of him.

As foreseen? By whom? What was there to get out of him? Why could

he not remember, either actively or reflectively?

The captain bleated that he must remember *Earth*.

No, honestly, he could not remember. Now? He was going to Sol III because he was tired of Mars. Yes, he had always been an air-and-safety tech, since first going into space. No, nothing else. Yes, he was sure.

Eventually, his attention began to waver. There were more questions, more automatically truthful answers; but he sensed a growing dissatisfaction among his questioners as they failed to connect him with Earth. He took obscure pleasure in that fact, even as he noticed that his physical senses were becoming blurred. He could no longer be sure just what happened outside his private reflections, but he was dimly aware of being carried back to his own compartment.

"False alarm," he heard the captain shrilling as they heaved him into his sleeping net. "Now must watch for another."

LARIL lay there, deeply withdrawn into his own ego, but unable to ponder the situation because his system was neither under his control nor naturally asleep. Before regaining normal consciousness, however, he must have slept; for he awoke alert. So alert that there must have been a cause.

Eyes still closed, Laril sought for the origin of the disturbance. He felt that considerable time had passed. There was no sound except for footsteps in the corridor. He swept his compartment with a swift glance; it was in order.

The padding steps halted at his doorway. Through the opening probed the eyestalk of a Procyonite. Laril shut all his eyes, thinking, *I must guard against discovery; that is why I awoke!*

The other being crept cautiously inside, almost flowing along the deck. Laril would never have heard it, ex-

cept for the most sensitive auditory nerves in his antennae. Eyes shut, he smelled caution and distinguished stealthy movements.

Satisfied that Laril still slept, the visitor began to search the compartment. The Capellan carefully opened his rear eye and watched the reflection in the shiny metal of the fixture from which hung his net. It was Tseel.

The elongated creature shivered nervously as it examined Laril's equipment, simultaneously handling instruments and probing into chests with various paws. Laril interpreted its jerky motions as evidence of frustration.

The Procyonite next turned to Laril himself. Without touching the sleeping net, it stared closely at him. Laril was almost caught peeping when the other dropped to all paws to creep under the net. He sneaked open another eye and saw Tseel scanning and tapping the bulkhead.

Disappointed, the Procyonite reared up beside the net, thoughtfully drumming upon the blue-gray, wrinkled skin of its belly with several paws. Laril sensed deep discouragement as Tseel finally padded out of the compartment.

As soon as he was alone, he slipped from the net. He saw that each of his possessions had been neatly replaced. "Now," he asked himself, "what could I have that is more valuable or more dangerous than I know?"

He could think of nothing. On the other hand, what could the Procyonites have to make them so jittery? Perhaps he should have found a way to examine the wine cargo.

Or the miscellaneous baggage, he thought, but what is the use? For all I can tell, they may just be haunted by the spirits of those ugly little statues, or some such thing!

Realizing that he was hungry, he went out to the supply-compartment in search of food. It was closed. As Laril was debating whether anything he might possibly find would be worth

forcing the door, Tseel ambled up from somewhere forward. "You have missed the eating period?" It inquired politely.

"Somehow or other—yes," replied Laril with heavy irony.

He considered how much he would enjoy plucking the stubby limbs from the other's body, one by one.

"Must get you food," said Tseel; "was partly our fault."

It whistled shrilly. After a moment, Bulloch arrived. At Tseel's order, it unlocked the door and entered.

I shall think of something pleasant for you, also, Laril thought. *I would like to know where you sleep!*

In the face of Tseel's affability, Laril saw no reason to reveal his grudge. "You understand," the other twittered, "was all mistake. Are now sure you know nothing. Robotin never, never fails."

Laril accepted without comment the synthetic rations produced from the supply room by Bulloch, and retired dourly.



DURING the next several days, Laril could detect no signs of further tampering with his belongings. Of this he made sure by leaving certain small devices in operation whenever he was away. Apparently, he was indeed considered "safe."

In routine fashion, he continued his rounds, testing less for structural strains, now, than for proper functioning of the air system. He did not pry again into the cargo compartments; having been there, he would remember all that he had seen. It was now merely a matter of interpreting his data.

What he did in his spare time would have disturbed his intended victims had they known. A varied, if compact, stock of chemicals was normally supplied for Laril's job. Like any good tech, he carried with him a number of extra substances and gadgets picked

up on many planets. With certain of these materials, he now manufactured a quantity of bluish gas and sealed it under pressure into several small containers.

Next, he attached to the valves of these some radio-controlled switches pilfered from Bulloch's stock, and then found opportunities to conceal them where he hoped they would do the most harm. One went into the air vent above Tseel's sleeping net. Another was hidden among the spare parts in Bulloch's compartment.

Unable to get into the captain's quarters, Laril slipped the third little can into the duct ventilating the control compartment. This he did under guise of repairing the loose grill of which Rowley had complained. "There will be no more trouble with that," he lied to the astrogator as he replaced the grill.

He was well satisfied that, for once, a Procyonite had relieved the chief pilot. He suspected that the latter might have spotted the forgotten "tool" left in the vent.

Laril felt a certain grudging admiration for the ugly Centaurian. At least, it was not of a race that ran in packs. A member of a limited population which had to fight a worn-out planet for a living, Laril approved of self-confidence. An Earthman had once told him it could forgive any fault, at least partly, if the individual showed courage. A Capellan felt the same about self-sufficient independence.

"My relief," Rowley interrupted Laril's thoughts.

HE YIELDED his place to another Solarian and left the compartment with Laril. They walked aft to the tech's quarters.

"Fascinating collection of instruments you have there," said the Earthman, peering in. "Mind if I look them over?"

"As your own," invited Laril, un-

obtrusively switching off the prowler-indicators he had planted.

Had he hidden the motion well enough? He thought he saw the other's eyes shift. He concentrated on trying to note whether the places searched by Tseel interested Rowley also.

It seemed not. The astrogator's enthusiasm was directed to Laril's special deck plans. "You'd have a hard time getting along without these, wouldn't you?" asked Rowley.

"I hold much of it in my memory," Laril replied.

"But you wouldn't like to lose track of these drawings, I suppose?"

"Oh, no," answered Laril noncommittally.

It bore no fruit. After a few idle remarks, Rowley announced the intention of hanging up its sleeping net. Laril was left intrigued but unenlightened. *Something queer is going on, he thought when he was alone. And the queerest part of all is that I feel I know what it's about—if I could only remember!*

Since it was a sleeping period for the larger part of the crew, he gave up the puzzle and hastened out to visit Bulloch and Tseel.

He found it convenient to work from the ventilating system, which he entered on a side passage. Soon, he peered out of a grill at Bulloch, hanging in a sleeping net below him. Laril activated the tiny radio-transmitter he carried. As the bluish gas escaped from its hiding place, it rapidly expanded into a colorless condition, but Laril could trace it by the effect it produced.

Bulloch began to twist and squirm in the net. The Earthman coughed, swallowed, then coughed more uncomfortably; it pawed at the part of the thick body which Laril thought contained the digestive organs.

The Capellan judiciously cut off the flow of the gas, but the Earthman remained restless. Finally, it awoke—not a moment too soon. Bulloch had

put away its sick-bags after a few days in space, but a frantic escape from the net and search among the lockers required only a few seconds.

Laril withdrew quietly along the air duct as Bulloch began to vomit into the plastic envelope. He reproved himself for rashness; he might very well have given the trick away by overdoing it, in which case he would have had to replace the gas container for the next sleeping.

He proceeded to visit Tseel, who slept with two other Procyonites, but that compartment was more moderate. Judging by the twitching eyestalks and violent shivering, Laril decided that Tseel experienced some horrible sleep-illusions. The only individual left to settle with was the captain, but Laril disliked releasing the gas into the control compartment until he was absolutely sure he could not penetrate the officer's own private quarters.

CHAPTER III

THE NEXT few days saw them reaching and passing the midpoint of their flight. Inexplicably, the nearness of its home planet failed to cheer Bulloch, who glowered—red-eyed and peevish—about the ship.

Tseel, Laril learned from crew gossip, had quarreled bitterly with its companions, who claimed that their former friend's mere presence in their shared sleeping compartment made them ill. Tseel now slept alone.

These details left Laril complacent. His only remaining problems were how to survive the poor food another few days and the matter of Rowley.

I wonder, he reflected. Am I too suspicious? I would not doubt that this diet makes me irritable. Something seems constantly to be probing at my mind, but what is it?

Still, from time to time, he took the trouble to examine all his possessions.

Rowley had formed a habit of dropping in frequently, without apparent purpose. Laril asked himself if the Solarian astrogator might not have visited in his absence, despite the spy-devices. *Perhaps I was seen turning them off that time*, he thought.

He was quite thorough in his search, but turned up nothing until he came to his now seldom-used deck plans. Distinctly visible to his versatile sight were many faint markings. Although occurring elsewhere, they were mainly clustered among the crew's quarters.

Laril buzzed thoughtfully as he analyzed the hue. "They must be invisible to Procyonites, as well as Solarians, except with special lights."

The nearest of the marked compartments was a sleeping space for several Procyonites. Laril noted the position of the faint cross and went the few steps along the corridor.

He found the section conveniently empty. He oriented himself and located the indicated spot. It was a cabinet on the bulkhead. Inside, he saw nothing but personal items, but his antennae sensed robotin. He peered closer. "A false back—so that is where they keep it!"

Having examined the store of drug without touching anything, Laril hastened back for more tips. Following the markings on his plans, he discovered two more caches of the robotin.

There was now little doubt in his mind that Rowley was the Solarian agent worrying the captain. The Earthman must have been quite energetic to have spied out all the little hiding places used by the crew members without being caught.

"And I took the rough handling for that!" Laril muttered.

He could not help thinking that the Solarian police were being petty, if not stupid. Laril could testify that there was only a reasonable amount of robotin aboard.

In the following days, he made himself sporadically busy about the ship, arranging to be seen working at intervals. His spare time was devoted to Tseel and Bulloch.

He also kept an eye on Rowley, who, unaware of Laril's discoveries, provided the greatest amusement. The Capellan shocked the other repeatedly by "waking" suddenly from a feigned sleep; or returning unexpectedly to his compartment while the other was adding to the list of drug caches. Admiring the cunning that led the Solarian agent to choose such a safe concealment for the notes, Laril always pretended to accept Rowley's excuses.

WHEN THE Procyonites finally caught the agent, however, no excuse was even considered. It happened about one Earth-day from Luna. Returning from a pre-landing check of an escape hatch, Laril heard a tremendous hubbub echoing from the main corridor. He peeped out from a side passage. Instantly, he jerked his head back.

A tangle of Earthmen and bleating Procyonites churned past, heading for the control compartment in a confusion of legs. One of the squealers, running low for speed, got between the longer limbs of the leading Earthman.

Laril waited until the resulting pile-up separated again into complaining but individual units, then followed. Approaching the nerve-center of the rocket, he heard a loud, monotonously-repeated radio signal above the babble of voices. The captain ran distractedly to and fro, pausing at every turn to bleat angrily at Rowley, who was under guard.

Even the Centaurian pilot showed rare animation. Laril conceded that to be natural this close to Earth and Luna, points of likely intersection for rockets on curves from many planets.

One of the Procyonites, who had been maneuvering about with a portable apparatus, jabbered at the captain.

The latter shrilled an order, and the crowd charged outside.

"From where do we receive the signal?" Laril asked Tseel, who stood with Bulloch beside the astrogator.

"From our own ship, it seems."

The Centaurian hissed something to the captain. "But they think another ship in the nearness," Tseel added.

"Who would anyone signal?"

Tseel bent an eyestalk toward the Earthman between Bulloch and himself. "We think Rowley. For his snooping police out there!"

In a few minutes, the technician with the detector-apparatus scurried back into the control section. Sliding the door shut to cut off the argumentative voices in the corridor, it reported to the captain.

"The thing is near main rocket openings," Tseel translated for Laril. "On, or in, a fin, probably."

Laril felt slightly uneasy at hearing the location mentioned, although he could detect no scrap of surprise in his mind. He wondered if he were developing a space-neurosis about rocket tubes.

"You!" shrieked the captain, pattering over to Rowley and rearing up to goggle at the Earthman eye-to-eye. "You put transmitter there!"

The Solarian stared back defiantly but made no denial.

"Have watched," the captain insisted. "You thought so clever, sneaking around, finding all private robotin. Now you think call police rocket. Silly trick!"

"I don't know what you're talking about," said Rowley.

It glared angrily about. Laril rather hoped it would attack Bulloch. He suspected the astrogator meant to indicate defiance, not misunderstanding.

"Will say what I talk about!" declared the captain. "Go outside and turn off, wherever it is! Will be generous! You can have spacesuit!"

Rowley made a brief remark beyond Laril's knowledge of Solarian. From the emphasis, he imagined it offensive.

Bulloch reached out to restrain the other Earthman. Laril's hopes were answered when it staggered back from a sharp blow. Rowley sprang for the doorway. Tseel tripped it with an extra leg, then prudently stood aside as the two Solarians grappled. The captain ran over, a robotin needle in one forepaw.

SOME TANTALIZING instinct warned Laril it would be unwise to interfere. Buried in his mind was the half-formed thought that there would soon be enough to do. Meanwhile, this situation seemed not unsatisfactory. In the end, the captain achieved its purpose, and the astrogator sagged into an inert state, completely dependent upon outside suggestion, helpless to do anything on its own initiative.

"*Twheel!*" squeaked the captain. "Need a lot of it with these Earthmen!"

As Laril stood inconspicuously by, and while the cold-eyed Centaurian watched with a mask of indifference, the other three wrestled Rowley into a spacesuit. A pair of crewmen were summoned to guide the astrogator to an escape hatch near the tail after the captain had repeated a demand for silencing the signal device.

The pilot hissed something to the Procyonite leader, who huddled with the other over a bank of dials for several minutes.

"There *is* another ship," Tseel told Laril. "If it is a Solarian patrol, we must flee!"

"What about the Earthman outside?" asked the Capellan. "Acceleration will kick the ship from under him."

"Small loss!" interrupted the captain.

"If we are stopped, it may grow," Laril warned; "they will not like their agent killed."

The captain reflected. "Is a truth," it admitted. "They can follow signal."

"Have somebody find and cut the

power line supplying it," suggested Laril.

The captain thought that reasonable. A gesture sent Tseel scurrying into the corridor to disperse the remaining crew. Laril wondered cynically how long they would search before realizing that the transmitter was self-powered and set by time to operate automatically. Startled, he suddenly became aware of his thought.

How did I know that? he wondered.

Before he could examine his reflective mind adequately, the main communication-screen glowed to life. They were being called, presumably by the ship detected on the instruments.

They all drifted across to cluster around the Centaurian as the latter tuned in. A uniformed Earthman appeared on the screen, but immediately made way for another in civilian dress. Several faces showed in the background; but the sight of the second Solarian, the one with the sharp eyes and neatly groomed black hair, jarred Laril like a physical shock.

He remembered!

"When you see me again," this Earthman had told him, long ago it seemed, "you will remember your instructions. Not until then—they have ways to force knowledge from you if we do not hypnotize your *inner* mind continually."

Laril had thought that impossible; the Earthman had feared that even such a measure would not be sufficiently safe.

"We will give you a sort of 'booster' gadget," Laril was told. "Screw it to the bulkhead near your sleeping net. It will repeat a message in your Capellan light-code, and make you subconsciously guard against detection."

Now I know what's been bothering me! Laril thought.

He also realized why the ugly little statuettes in the cargo had so fascinated him. They *had* originally come from a planet of Altair, and this diplomat of Earth was charged with recovering them from the thief. A reac-

tion-sensitivity to them had been subtly instilled into Laril's mind.

LOOKING over the head of Tseel, the Capellan remembered the tanned skin and snapping black eyes of this Earthman. He diverted one eye to watch the captain.

"I must ask you to receive an inspection party," the latter was told. "My name, incidentally, is Taylor. This is an armed rocket of the Solarian Patrol."

The captain bleated an obscure curse in its own language.

Laril rapidly reviewed his recently-recalled orders. The Altairan statuettes had been smuggled from that system on a rocket of ostensibly Solarian registry. To salve wounded feelings—the objects were claimed to possess a religious or superstitious significance—the Solarians were forced to trace and recover them, or risk an unpleasant rupture of relations with Altair.

Taylor had told Laril they were permitting the suspected Procyonites to save them trouble as long as they appeared to be transporting the objects *toward* Sol and Earth. Since a break with Altair might be costly, however, there was no intention of letting them pass beyond or even disappear into some secret Earth collection.

This made continuous observation of the suspected ship necessary, which was why Laril had been planted at the space agency on Mars.

"We can always find some excuse for intercepting them near Earth," Taylor had said. "They are notorious robotin addicts, so we may even place a narcotics agent among them. Of course, that department would not know about *this*."

Laril brought his reflections up to date. It was his job to locate the objects and get them into Taylor's possession, unobtrusively if possible.

He saw that the captain was trying to argue. "No, no, no! Will not permit search! Don't think have fooled

us with that signal. Have caught your stupid agent."

Laril saw Taylor's eyes twitch involuntarily in his own direction before fixing the captain with a hard stare. The Capellan pushed forward a little. "Yes, you fool," he spoke directly to Taylor, "but even if we had not caught your clumsy Rowley, did you think you would actually *catch* us with any robotin?"

The captain jumped and chattered angrily. It cut off the televisior. Before the scene faded, however, Laril detected a gleam in Taylor's alert eye.

"But what else would they be after?" he demanded innocently in reply to the captain's vituperation.

PATCHES of muscle twitched and writhed all over the Procyonite's blue-gray body. It bounced up and down on its short legs, emitting piercing whistles.

Bulloch glared at Laril. The Centaurian pilot, to all appearances lost in thought, majestically ignored the bickering. Tseel, alone among them, was coherent enough to name several unlovely forms of life to be found on the planets of Procyon.

"I? You mean *me*?" exclaimed Laril; "I said something to offend?"

"Now they *will* follow if they can!" shrilled the captain. "If they enforce technicalities, can prison us!"

Snatching a packet from its pouch, it turned to Bulloch. "Here! Collect all rest! Destroy all!"

"Will show where I keep mine," offered Tseel, following the Earthman out.

The captain turned to the pilot. "Soon as signal stops," it asked weakly, "can shake loose?"

"What about the astrogator?" prodded Laril. "Shake that one loose too, and they will be vindictive."

"Then you go get him. Quick!"

"Call the rocket crew and have them cut off the fuel," said Laril; "I don't want to find myself shaken off by an odd blast while I'm out there."

He ran down the corridor at his best, four-legged speed, remembering the cold glance cast at him by the pilot. He had little hopes of the latter's being squeamish.

Now, let me think, he pondered. *What would be a good way to pass the things on to Taylor?*

On second consideration, that problem could wait. Getting Rowley inside was more important. Laril owed the Earthman a certain gratitude for more than routine police work. Besides, Rowley might possibly find and damage the mechanism Laril had welded inside the tail fin the night before leaving Mars. The Capellan picked up his spacesuit at his compartment and headed sternward.

He passed Bulloch in the corridor. The latter had stuffed several small packages into the front of its greasy coveralls and was trying to make a Procyonite part with another. Laril resolved to check on that matter the moment he had time.

The rocket compartment crew turned out to be mostly Solarians, with whom he could talk fairly well. One of them directed him to the escape hatch used by Rowley, and helped him into his complicated spacesuit. "What's going on?" he asked curiously.

"He's doped," Laril explained; "I have to get him in."

CHAPTER III

LARIL hurried though the safety chambers and reached the outer hull. He permitted one eye to scan the beauty of the stars while the other three searched out Rowley.

"Clever fellow!" he buzzed to himself as he caught sight of a space-suited figure crouching beside one of the big tail fins. With deceptive grace, he slithered his four feet in their magnetized boots along the hull till he reached Rowley.

"You will not get it out," he said, pressing his helmet against the other's

rather than use his radio. "It took me most of an hour's 'safety inspection' to weld it in there."

Rowley stopped fumbling at the rough welding Laril had done in the Martian darkness, but did not rise.

"Come inside with me," Laril ordered.

The astrogator obediently followed him to the hatch. Laril preceded him, uneasy, but more afraid to chance Rowley's thinking that "inside" meant merely the first chamber.

Having reached the interior, he waited anxiously; but Rowley popped out of the safety chamber with no delay. Laril divested himself of his suit. Before he could start on Rowley's, a group of Earthmen straggled along the corridor. He recognized the rocket crew.

"Hey, Octo!" called one. "Make yourself scarce; Bulloch just ordered all hands away from the pipes."

"I shall follow," acknowledged Laril.

To Rowley, he said, "Wait here!"

He listened until the rumble of Solarian voices had died away, then crept cautiously to the door of the rocket section. He slid it open a crack to let the tip of an antenna through.

Yes, there was animal heat and odor in the compartment. He applied an eye to a wider opening, and saw Bulloch.

The Earthman had disconnected an auxiliary meter in a fuel line and was stuffing his collection of small packets into the opening. The plan, manifestly, was to let them be swept into one of the tubes with the first maneuver. Laril, following the line with one eye to where it disappeared into the massive stern shield, decided that Bulloch had chosen the means well.

So intent was the Earthman on the task that Laril's approach went undetected until he whipped a sinewy tentacle around Bulloch's neck. Then the fun began.

At moments during the ensuing struggle, Laril doubted whether he had actually cut off Bulloch's breath-

ing. Held with flailing limbs away from the deck or other purchase, however, the Earthman was nearly helpless, and finally collapsed. As an afterthought, Laril opened one of the spilled packets and injected a dose of robotin into Bulloch. Then he reached a tentacle far into the fuel line to recover others.

Having dragged the drowsy Earthman to the door, he decided that still more effective measures remained to be taken while the watch was absent. He propped the inert Bulloch beside Rowley and returned to open other fuel lines. He did not disconnect the intercom televisior.

A few minutes later, he had the routine well organized. He entered a crew compartment, preceded by Bulloch. Rowley, dreamily holding Laril's deck plans, stood outside to warn of possible interruption. Laril preferred that to taking the time to pry the astrogator out of its spacesuit.

"I'm handin' this stuff out again," announced Bulloch, as Laril had instructed. "Step up to Octo an' claim your own!"

THREE PROCYONITES and an Earthman were in the section. As each of the former reared up eagerly to examine the packets held at eye-level by Laril, a low-hanging tentacle jabbed with a hypo. Each stood still, allowing the next to crowd past.

"Go to sleep," Laril told them. He looked at the Earthman, watching disgustedly from its sleeping net. "What about you?"

"Don't use it," was the disinterested reply.

"It will help you sleep," said Laril, gliding closer.

When the Earth man was quiet, he called in Rowley. "How many here?" he asked, hoping Rowley's memory would save consulting the deck plans.

"One in the cabinet there...false drawer...one behind a sliding section in that bulkhead..."

By the time they had worked along to the control section, the ship was in a state of peace, with all the drug replaced.

Laril slid open the door and sent the Earthmen in ahead of him. The captain immediately pounced upon Bulloch. "Did you get rid of it?"

"Every-little-bit!" replied Bulloch, promptly if somewhat mechanically. "Every-thing-is-fine."

"They insist we decelerate," Tseel told Laril.

"Why not tell them," suggested Laril, "that something is out of order? The fuel distributing system, for instance."

The reptilian pilot favored him with an intent, beady stare, but the captain was disdainful. "Would never work," it shrilled. "Hear that signal! Still going. What is wrong? Crew could not stop it?"

Laril ignored the questions and faced the cold stare from across the compartment. "I just passed the rocket section," he remarked. "The lines really *did* look to be in a dangerous state."

The Centaurian flicked a member at the intercom keys.

Wonderful, admired Laril. Looks like something you'd catch on a hook, but the relays are clicking inside that flat head. It must be a lightyear ahead of the captain!

The pilot hissed something to the Procyonite commander. The latter twittered in protest, but gave in with surprising meekness. The pilot punched out a call signal.

In a moment, their own screen glowed. Laril saw Taylor, partly clad in a spacesuit, behind the operator on the other ship. By that time he had managed to sneak close to Tseel and the captain; that left the Centaurian as the only independent will except his own aboard the ship. "Better let them board," he suggested.

The captain obediently extended an invitation. To Laril's relief, the pilot did not object.

The Patrol ship must have already

matched their speed and course, for a signal was soon sent in from their own outer hull at the main entrance port.

"Bulloch, show them the way in!" said Laril, to prevent the Centaurian from noticing any queer hesitation.

Four Earthmen came: Taylor; another official wearing the uniform of the Solarian Patrol; and two spacemen whom Laril suspected might be a pilot and an engineer. They had removed their spacesuits somewhere in the corridor, and now crowded into the control compartment with the six from the original crew. Taylor was careful not to notice Laril overtly. The attention of the others was momentarily distracted by the sight of Rowley, still in a spacesuit.

AFTER a few seconds of hesitation, the latter managed to take action on Laril's earlier coaching. "Here!" it addressed the Patrol officer. "Copy of the deck layout; shows all the dope caches."

Rowley passed it over with a nervous, jerky motion. Laril realized that the astrogator's reflexes were going through a slowed-down period. It was trying to keep up with the apparently rapid motions of the others.

"Good work, Rowley!" said the officer. "What have you got that spacesuit on for?"

"Been outside, looking for a signal..."

The officer looked puzzled. Taylor interrupted. "This means, doesn't it, Mara, that you'll have to take them all in?"

"Looks that way. You certainly had a perfect hunch on intercepting them. Don't know how you guessed their position before the ship's detectors picked them up."

"Well," said Taylor, "as a representative of the Interstellar Department, I suppose I ought to take charge of the rocket and cargo until we can check her registry. Mind if I keep a couple of the crew to help?"

"We can get 'em from you later," the other shrugged.

Good, thought Laril. That problem is solved for me! Taylor must have chosen the other for simplicity.

"There is one mistake!"

Laril's tentacles twitched in surprise. The words had come from the Centurian, the first indication that it could speak Solarian. It did so poorly, making the challenge sound more like, "*Sssair isssh swun misstake.*"

"Who's the lizard?" the Patrol officer broke the silence.

Taylor looked inquiringly at Laril. "I do not understand it," admitted the Capellan.

"You should hear yourself talk Solarian, Froggy!" commented Taylor's companion.

"Tseel, call the otherssss!" ordered the pilot.

The Procyonite thrust its head out the door and whistled.

"What do you mean—mistake?" demanded Taylor.

"I have been shown," said the Centaurian, "that to use the rocketsss meanss explosion. I may do sssol!"

"Fuel lines disconnected," Laril explained hastily; "if those firing buttons are touched, we all light up!"

"Got any friends here?" asked Taylor quickly.

"All except the lizard," said Laril, showing his hypodermic.

"Sssecond misstake!" said the Centaurian. "They were mine *before* they were yourss. Their brainss obey *me*!"

No one moved. The chagrined Capellan heard the pad of feet in the corridor; with his nearest eye, he saw several Procyonites fill the doorway in response to Tseel's summons.

Laril had completely overlooked such a possibility. The pilot implied that the rest of the crew had been under a drugged control like his own means of controlling Rowley.

Or even, he thought, under deep hypnotism as I was before "remembering."

THE ARRIVAL of the crewmen Laril had put to sleep was ominous; he saw no Earthmen among them. Did that mean that the latter were only camouflage for spaceport officials, that only Procyonites were concerned with the theft?

If so, Rowley, at least, might still obey Laril instead of other suggestions. The captain had given the first orders, but Laril had coached the astrogator for this situation.

Taylor was watching the Capellan intently, ignorant of the complete background but alert to follow Laril's lead. The latter turned to Bulloch. "Get out of my way!" he ordered boldly.

"Ssstop him!" countered the Centaurian.

The conflicting commands dumbfounded Bulloch, who stood scowling helplessly in pitiful bewilderment. Laril deliberately brushed past toward the astrogation desk.

"Ssstop him!" hissed the pilot in a cold fury.

Action resulted from this more general order. Tseel and two other Procyonites scurried forward. Laril was clamped firmly against the bulkhead.

"Ssilence for me to think!" demanded the Centaurian.

Laril disapproved of the quiet. A breeze against his legs revealed that he had guided the charge to the proper spot—beside the ventilator—but he feared making a noise. "You overlooked me!" he boasted insultingly.

The pilot shifted slightly in annoyance. "Yess, after you withstood the robotin," it admitted. "How?"

"I will not tell you."

"You *will*...in the end!"

It was stated with a chilling assurance.

Laril blinked together the lids of the eye facing Taylor in a Solarian gesture he remembered. "It was your fault!" he accused the Earthman.

Taylor took the cue and rejected the blame vehemently. Laril complained more loudly; he checked with another eye that Rowley's helmet was

still closed. The tip of his tentacle had groped through the grill and was straining for a grip on the object he had secreted there days before.

"I ssay to you, be sssilent!" ordered the pilot again.

Laril looked around the compartment. The Centaurian squatted like stone before the controls; Bulloch and Rowley stood about limply; the Procyonites still crowded him against the bulkhead. Of the four newcomers, only Taylor was not visibly discouraged.

The captain—whose impersonation of command Laril now blamed himself bitterly for accepting—stood idly behind the pilot, while Tseel and other Procyonites filled the remaining space between Laril and the door.

The Capellan bent aside the delicate remote-control switch on the gas container. He took a deep breath and opened the valve. "Do you hiss at me?" demanded the Centaurian testily.

"Sssss!" enunciated Laril defiantly, regretting the breath expended and nervously conscious of the inflowing breeze from the ventilator behind him.

THE PROCYONITES, with their more rapid breathing, caught it first; the one nearest Laril doubled up suddenly and fell writhing to the deck. Tseel, partially conditioned by previous exposure, resisted temporarily. It staggered instinctively toward the door, already blocked by retching, blue-gray bodies.

"I feel sick," whined Bulloch plaintively.

Taylor whipped out one of the pocket-cloths carried by Earthmen and attempted to cover its breathing organ. Its dark eyes stared reproachfully at Laril. The other Solarians had lost all traces of pinkness in their skins.

I wonder what color I am, Laril thought uneasily, having been forced at last to breathe. He felt he might vomit at any moment, and was gratified to see the Centaurian rise abruptly.

With the vicious speed of a striking snake, the pilot scuttled to the cabinet beside the doorway, and began to fling twitching Procyonites bodily out of the way. Laril realized that the Centaurian's spacesuit must be kept there.

The Capellan choked at last. His vision began to blur. "Rowley!" he grunted. "Stop the pilot! Capture it! Lock it away!"

Hazily, he saw the spacesuited Earthman step forward with purpose derived from a direct order. Metal-sheathed hands groped for and tightened upon reptilian flesh.

Laril ripped off the grill behind him with a sudden, frenzied jerk. He flipped out the gas container and thrust his head into the duct for a reviving breath of clean air.

Later, he took a moment to be thankful that no one had jogged against the controls during the confusion.



Much later, after the Earthmen had repaired the fuel lines and landed the ship at a spaceport on Luna, Taylor found an opportunity to speak privately with Laril. "I forgive you, I suppose," said the Earthman, "but it was most unpleasant for a few minutes."

"I regret being unable to warn you," apologized Laril.

He was cheerful from recent overeating, and wished he could say something to smooth over his declining Taylor's invitation to vacation on Earth. He was eager for the promised payment for his adventure into police work—a berth on an interstellar ship leaving for Capella.

"Of course, you could hardly have done that," admitted Taylor. "But the way you took root at that ventilator! I wanted some air too!"

"You suffered less than most," Laril flattered the other.

Taylor looked skeptical, and
[Turn To Page 128]



the ★ ★ ★
**Luckiest
Man
Alive!**

By William Morrison

The man who won the contest for a perfect specimen to be named "Mister Earth" would be in a unique position!

"DO YOU LOVE me Grant?"

"No doubt about it Baby," said Grant Hayes absently. He was tired of hearing the question, and he no longer answered it with the old fervor, but he couldn't brush it off altogether. Not yet. Not as long as he still wanted to eat.

"You don't act as if you do."

"You know how I feel about you, Gilda." His tone was careless, and he didn't even bother to look at her. He stared into the mirror and smirked at what he saw there. Then his eyes wandered. They caught a headline on the newspaper thrown across the table, and he went over to pick up the paper. He turned over the pages idly.

"You haven't kissed me once in the past hour."

Grant Hayes was no longer paying attention. He had caught a glimpse of an ad on an inner page, and he was avidly reading the details. *Win Fame and Fortune!* it shouted.

It was almost as if the thing had been directed at him. His eyes glistened as he read. No stupid routine

work, no tiresome job without a future for a man of his talents. It was the kind of work that wasn't work at all—the kind he loved to do.

"Grant!" she exclaimed petulantly. "You haven't answered me!"

He gave her a glance, a single hate-filled withering glance. "Shut up, you old bag," he said. "We're through."

He heard her shriek as the door slammed behind him. And that seemed to be that.

At the contest headquarters there was only one girl in the outer office. She had what he liked, and she knew it. And she knew what he was here for. She said, "Here's your contest blank, sir."

"How'd you know I wanted one?"

"I could tell by looking at you. You look like Mr. Earth in person."

"Not yet, Baby, but I will be. That is, if this thing is on the level."

"Of course it is," she said indignantly.

"Ten grand to the winner?"

"And another ten for endorsements."



Grant knew he could have his pick of girls when he won.

"And the movie contracts, and all the rest of it? It's a little too good to be true. They usually run these things for dames, not men."

She said demurely, "Don't you think that a woman likes to look at a good-looking man too? And if the woman has money, and nothing better to do with it—"

He grinned at her. "So a dame with money's in back of this," he said. "I

thought it would be something like that." He took a deep breath, and saw her eyes fill with admiration at the depth of his chest. "I wish we could cut out the preliminaries and have the final judging now."

"You men are always wanting to cut out the preliminaries. We can't rush things," she told him. "We expect entries from all over the world, you know."

"You won't find anybody in a class with me, sweetheart."

Her eyebrows went up. "It's all right for me to say it about you, but it doesn't sound so good coming from you. You're awfully sure of yourself, aren't you?"

"I've got a right to be. And I'm pretty sure of you too. No use getting huffy about it, either. Because when this is over, you and I are going to spend a lot of time together."

"I'm afraid you'll have better things to do with your time."

"I'll save some for you. But right now—here, give me that contest blank."

The blank, as a single glance showed, was simple enough. They wanted to know just enough about him to identify him.

The girl said, "They give you a medical examination."

"They don't have to. I'm perfectly healthy."

"There are a lot of men who are perfectly healthy. But do you have all your teeth? Are they in perfect condition. Ever lose an appendix? Ever have a broken collarbone?"

"So things like that are important, huh?"

"Very important. After all, this is a contest for perfect men, not weight-lifters or wrestlers. We want the best specimen we can find." She laughed at him and demanded, "Still confident?"

"Absolutely." But inside he was worried. The requirements were crazy. For all he knew, he might have a cavity in one tooth, or he might have broken one small bone that hadn't healed quite right. The ten thousand dollars seemed suddenly to elude his grasp.

"There's a fellow out on the West Coast won a Mr. State contest," she said. "He was really perfect. Not a thing wrong with him. What a man! But he married a rich woman he met and retired from competition. So maybe you've got a chance after all."

He grinned at her once more, all his confidence was coming back.

"They can save time and make out the check to me right now. You'll see, Baby!"

HE WENT through the examination with the same confidence. A dentist studied his teeth, looking for flaws, and found none; a doctor went over his body, and then another doctor shot x-rays through him. After it was over, the dentist and both physicians spoke to him with admiration.

"The best set of teeth I've ever seen," said the dentist.

Grant grinned, and gave the man another sight of the dentures he admired.

"Not a bone misproportioned, not a muscle out of place," put in one doctor. "I don't mind telling you, Mr. Hayes, that I've never seen a specimen to match you. Never. Of all the men that I examined this week, not one comes close. If only I had half your physique—" he sighed.

Grant shook hands with them, pitying them. It was in the bag now. He had a vision of himself as he posed on a stage in a leopard skin, flexing his muscles. He could see them draping a band across his chest with the proud words, *Mr. Earth* blazoned across it, while the movie and television cameras ground away, and an audience of enraptured women and jealous men gazed at him, unable to tear their eyes away. He saw them handing him a check for ten thousand dollars—but that, he realized, was peanuts compared to what he would get later. The money for endorsements would amount to at least the same. There'd be local theater appearances, and a contract for a jungle film. And everywhere he went, he'd meet rich women—elderly, perhaps, but with no perhaps about their money and their admiration for a man with his build. He'd be a complete idiot if he couldn't find one with as

many millions as he had dreamed of, and a great eagerness to spend it on him. He saw himself set for life.

But the final judging of the contest would take time. He hadn't counted on that. He'd have to make up with Gilda. He didn't like the idea, but it would be only for a short time now, and when he got that first ten thousand he'd be through with her for good.

He went back, apologized carelessly, and told her he loved her. And it was as if he had never slammed the door.

He won the regional contest hands down, but there were other regional contests, and then a national contest, and at last the international finals. The national contest offered him competition, but he squeaked through. The international, he knew, was going to be more difficult. There was an Australian and a South American. Each seemed to his worried eyes as good a man as he was.

The girl in the office said to him frankly, "Grant, boy, you're out of luck. I think our Aussie friend's going to get it."

"You wouldn't kid me, would you, Baby?"

"Honest, Grant. Personally, I'd choose you—you're more my type. But I've sneaked a look at his chart,

and I've seen some of those comments the Australian judges have made, and as I say, I think you're out of luck."

His eyes grew hard. "It's a put-up job! It's been fixed from the beginning!"

"Don't be silly. It's just that they think—of course, I don't agree with them—they think that he's a better man than you are. They rate you as second."

"The fools!"

"I think so too," she agreed. "And, Grant, you know that there's first prize, and then nothing. No second, no third."

Grant was silent, and his perfect eyes began to see red.

"But you don't have to worry about me, honey. I'm sticking to you."

"Thanks, Baby."

But he wasn't thinking of her at all. He was thinking of the Australian.

THE FINAL judging was to be the next day. That night he acted. He had learned the name of the hotel where his rival was staying, and when the man came out, Grant followed. The man was going for a walk—Grant had learned that he always went for a five-mile walk before turning in, just to keep in condition. On a temporarily deserted

He Had To Recant His Theories And Recite The Scientist's Creed Publicly!



"I believe in the existence of e, in the Method of Least Squares, and in the Theorem of Mean Values. I believe that the Mean Value is that value which is as likely as not to be exceeded. I believe in the Theory of Limits, and in the Infinite Series, and in the Thought Control Board, world without end, amen!"

THE SEVEN SECURITIES by Hamlin Daly

is our second feature novelet for August

street, Grant caught up with him. A blow on the head from a club brought the Aussie to his knees. Then a hard, pigskin-gloved fist caught him in the mouth. Blood flowed, a tooth fell to the ground.

The Aussie was no longer a perfect specimen. Grant smiled, and disappeared in the darkness.

The Aussie didn't even show up for the final judging. There was a big newspaper story about what had happened to him, but no one could prove anything, and the promoters of the contest, anxious to protect their good name, were not eager to hear suspicions. Grant stepped out before the audience with a confidence that was at last perfect.

They liked him. He could tell that from the roar that went up, from the shrill screams as he posed there, his muscles flexed, his body shining with the oil that caught the highlights. The other man didn't stand a chance. The judges took time to confer, as was proper, in order to make it seem that they had considered both contestants thoroughly, but it was really no contest. When they announced their decision, it was what every one had expected.

Grant Hayes was Mr. Earth. The audience greeted the news with a roar that didn't quiet split the roof, but did loosen some plaster from the ceiling and bring it down with a crash that caused two fractured skulls.

Grant Hayes was Mr. Earth. Women and money—money and women—all he could want of both—they were his for the rest of his life. His nostrils dilated as he thought of them.

●

He was still thinking of them when he shook off some of the more ardent of his admirers and went into his room to dress. He flicked on the light switch, but no light came. Instead, a liquid voice said, "Don't worry, Mr. Hayes, we can see perfectly."

He was completely flabbergasted. He said, "What's this, a holdup?"

"No. We have no use for your money; we want you."

"Me? You're mistaken. I don't know you, whoever you are. I never heard your voice before. I never had anything to do with you."

"Of course not. Our interest in you is purely impersonal."

"I don't get it."

The voice said patiently, "But there is really nothing to get. We had spent much time studying your race, and we wanted a perfect specimen of the human male. To have sought him ourselves would have been very boring and tedious. We therefore arranged this contest. You have admirable business methods in your world, and we were enabled to do things by mail, giving the name of a woman to inspire confidence. Of course we have plenty of the material that passes on this planet for money. You see how simple it all was? Instead of our having to seek you, you sought us."

Of all that they had said, Grant grasped one thing. A cold sweat broke out on his forehead. "You—you're not human!"

"But you are. A perfect specimen."

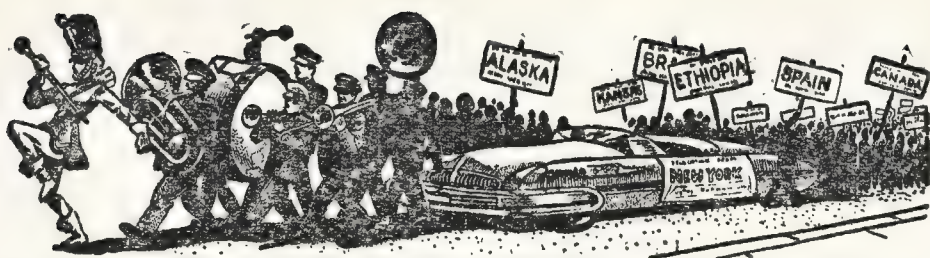
He rushed at the door. It was locked. He fell against the wall, and found it covered with a soft, elastic material. He fell to the floor, panting and sobbing, and discovered that this too had been padded.

"We could take no chances of having injury come to so perfect a specimen," explained the voice, "especially after what happened to the other specimen last night. We want you just as you are. It will be useless to struggle."

His nostrils caught a strange odor, his senses became blurred. He heard the last words without really comprehending them. "You have been greatly admired here on Earth. Your body will attract even greater admiration on Mars."

It did.

●



We, The People...

A Fable of Futurity by Ward Moore

MAINE voted in September. On the first Tuesday after the first Monday in November the rest of the 108 States went to the polls.

Of course the solemn ritual, the great memorial gesture for which the inhabitants of the planet Arcturus Three existed, began much earlier in the year—in May, to be precise, when the first primaries were held. Sound trucks shouted, "*Vote for delegates pledged to Jones!*" Opposing trucks replied as loudly, "*A vote for Jones is a vote for Robinson. Don't be misled!*"

There were, naturally, but two parties—except in the Solid South (which, by a peculiar freak of Arcturan geography, was located on an island-continent, quite isolated from the rest of the Republic) and Vermont—since none but Republicans or Democrats represented tradition. True, centuries earlier—when this new United States first established on Arcturus Three—it had been argued that Federalists, Whigs, even Greenbackers and Populists also represented tradition and ought to be allowed at least token incarnation. At this point, Jefferson Davis Huey Long Yokum, representing the sovereign State of South Carolina, had risen to declare, "Sir,

it is a fact the Democrats can lick the Republicans with one wing tied behind them. To split the opposition would not be sporting, and we of the South, Suh—"

Here the Honorable Mr. Yokum recounted briefly the history of the War Between the States, with particular attention to the disposition of Ewell's corps at Chancellorsville, touched on the sanctity of Womanhood, Chivalry, Problems Peculiar to Certain Regions, Coca-Cola, States' Rights and the Boll Weevil. Some four hours later he dived for his original sentence and caught it in mid-flight.

"—we of the South, Suh, have always been advocates of fair play. There is no room in politics for any but We-All and Those People." Jeff Yokum carried his point by acclamation.

In June, the great Convention Hall was made ready for the Democrats. Festooned with red, white and blue bunting tastefully interspersed with donkey heads, the auditorium was a magnificent sight when the temporary chairman called the convention to order. As one, the delegates rose and stood in awed silence as the band—operated entirely by remote control, even to the bursts of perspiration on

the conductor's forehead—rendered a selection of patriotic airs, including *Dixie*, *Kuppenhammer's Margarine's CREAMY Keen*, and *The Nutcracker Suite*.

After the invocation, the chairman of the Abyssinian delegation asked to be recognized. This brought concerted cries of "No, no—never!" and "Outrage!" from the Mississippians and Alabamans. The Chair inquired if the Honorable Delegate from—ah—Abyssinia was aware that the floor was customarily granted only to representatives of the ancient Forty-Eight States? He wished to cast no aspersions on the State of Abyssinia—whose star had an honored place in Old Glory and whose sons were as loyal Americans as any beneath the sun of Arcturus ("Hear, Hear!" from the West Indian Delegates)—but if he remembered his history Abyssinia had been admitted to the Union as the ninety-seventh or ninety-eighth State.

Since that great commonwealth had been sending delegations to conventions for the past two hundred years, always asking for the floor without ever getting it, he was almost constrained to believe—well, much as he hesitated to say it—there was something faulty in the Abyssinian makeup, or, to use a very ancient phrase, a screw loose. (Laughter from those members of the convention who could appreciate the wit of so applying the archaic term.) He was therefore compelled to rule that the Abyssinian delegation be thrown out by the Sergeant-at-Arms. (Cries of "Steamroller!" "Czar!" from parts of the hall, and the Rebel Yell from others.)

The Abyssinians disposed of, a Permanent Chairman was elected and Platform One adopted. Platform One, drafted centuries before, was always adopted by the party in power. It was sprinkled with the sacred phrase. "*We point with pride*" and denounced the opposition party as a disruptive force, with no constructive program, and called on the electorate to return again

the party of Jefferson, Wilson and FDR.

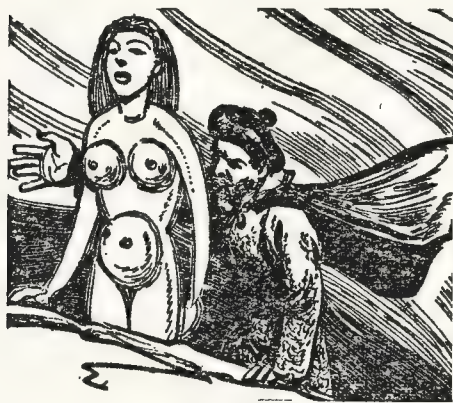
A delegate from Oklahoma (having been yielded to buy the Alabama contingent) rose and began, "Thousands of years ago that sub-celestial paradise the best of all possible worlds, was blown apart. Fortunately colonies had already been established on Mars; these colonies piously labored to rebuild the great American civilization exactly as they had known it. When Mars exploded into fragments during World War VI, civilization moved to Jupiter; after that planet met its inevitable fate, Americans left the Solar System and spread all over the Galaxy. Thanks to their great wisdom and superhuman foresight we are here today, carrying on exactly as primeval Americans carried on in the pre-fission past."

THE DELEGATE went on to review the history of the establishment of the United States of Arcturus Three and laud the intelligence of those who had conceived this protected memorial as second only to that of the Founding Fathers themselves. The United States of Arcturus Three counted itself rich in many distinguished citizens, but he ventured to say, that the one whom he was about to name was no inferior in patriotism, statesmanship or firmness. He was one who had devoted himself to the perpetuation of American ideals and the policies of the Democratic Party. His enemies called him stiff and unimaginative; let them. This only proved that the one whom he was about to name, the one who was, in his opinion, most fitted to symbolize the Democratic Party—and so on, one who by one whom, for an hour and twenty-six minutes and fourteen seconds, until, in a final burst nominating James Quincy Halibut, "the next President of the United States of Arcturus Three."

At the name of Halibut, the delegates went wild with frenzy and relieved tension. Seizing the standard of the Oklahoma delegation, they pa-

rated up and down the aisles. After some struggle with dissidents who preferred candidates as yet unnamed, the standards of Arizona, Montana, Costa Rica, Pakistan and Mongolia followed. Whistles blew; rattles whirled; the band broke into *Happy Days Are Here Again*, and thirty-four alternates emptied revolvers at the crystal chandeliers while the galleries chanted, "We want Halibut!"

The demonstration lasted exactly fifty-four minutes and fifty-nine seconds, at which time it halted abruptly, in order not to equal the enthusiasm shown for the name of Horace W. Milldap, who had received an ovation of fifty-five minutes a hundred and sixteen years before.



After this, the chairman of the Arkansas delegation, in a fiery speech, recalled the glories of the past—the National Debt for 1958 (Old Style); galactic navigation by sonar propulsion; the structure of charonium 23—and moved by gradual steps to the name of Grover Woodrow Fogbottom, "the next Chief Magistrate of Arcturus Three."

The standards of New York, Nevada, Wisconsin, Yugoslavia, Indonesia and El Salvador followed that of Arkansas around the convention floor. The galleries shouted, "We want Fog. Good old Foggy!" The demonstration lasted exactly fifty-four minutes and fifty-nine seconds.

An Ohioan nominated Ambrose Numscragger; a Pennsylvanian, Eustace F. Mahaffey; a delegate from

Wyoming, Clarence I Sinbad. Attempts of delegates from Siam, Ceylon and South Africa to put forward favorite sons were declared out of order, undemocratic, obscene, subversive and indelicate. Nominations were declared closed and the chairman began calling the roll.

"Alabama."

The spokesman of the Alabama delegation arose majestically and announced, "Alabama casts twenty-four votes for Oscar W. Underwood."

"Alaska."

"Alaska, the Greatest State of All—the only State that ever put Texas in its place—Alaska casts her six votes for G. W. Fogbottom."

All over Arcturus Three, the deliberations of the convention were transmitted by telepresence: three dimensional, audible, visible, touchable and smellable. To any less decorous than the Tertiary Arcturans, this remarkable gadget might have offered tempting possibilities of rowdiness, or mayhem, but their patriotic devotion was such that—even at the height of partisan zeal—no bricks were ever hurled into the auditorium through the telepresence, no speakers ever suffered the indignity of being shut off with a muffling drape. (This might be to some extent accounted for by the blow steamer which came as standard equipment on all telepresences: a button, which when pressed gave a hoot of such volume that almost anyone's feeling would be relieved.) When, on the seventeenth ballot, Grover W. Fogbottom was declared the nominee, the simultaneous blast of the millions of blow steamers could have been heard on the planet's nearest moon—had there been anyone there to listen—and actually did register on sensitive instruments several light years away.

A more properly sedate enthusiasm reigned in the hall itself, and the protests of India, China and France that their votes had not been counted was passed over in dignified silence as the Oklahoma delegation moved to make the nomination of Fogbottom unani-

mous. This was carried by acclamation, whereupon Arkansas nominated James Quincy Halibut for Vice-President. After some half-hearted opposition from supporters of Clarence Sinbad, he was named, and the Democratic ticket stood: Fogbottom and Halibut.

AS SOON as the Democrats made their decision the auditorium was redecorated for the Republicans by replacing the donkey heads with elephant hams. The temporary chairman called the convention to order and the delegates rose respectfully to hear the band play *Home Sweet Home*, *Always Smoke Luckifields FOB*, and Boccherini's *Celebrated Minuet*. A delegate from Greenland asked for the floor and was tossed out, the temporary chairman was made permanent, and the convention adopted Platform Two which viewed with alarm the character of the party in power and urged the electorate to support the party of Lincoln, Arthur and Hoover. On the first ballot they named Robert T. Elmersnort for President and Eugene P. Butterwaife as his running-mate.

The battle was now joined, and the citizens of Arcturus Three—from the shores of the polar sea which teemed with blue turkfish, spotted seals, rhinowhales, sea-tapirs and marine giraffes, to the frozen wastes of New Antarctica—threw themselves with frantic enthusiasm into the struggle. Republican orators catalogued the talents of Elmersnort and Butterwaife; Democrats lauded the incomparable Fogbottom and Halibut. The Gallup Poll predicted the election of Fogbottom under certain circumstances; the Roper Poll showed that Elmersnort—presuming that specific conditions prevailed—would have 50.01 percent of the votes.

The campaign grew hotter and hotter. Elmersnort denounced Fogbottom as a scalawag with universalistic leanings; Fogbottom answered that Elmersnort was ideologically sympathetic

with certain galactic adventurers. James Quincy Halibut declared the Republicans thought they were still in the Solar System; Eugene Butterwaife retorted that if the Solar System was good enough for George Washington it was good enough for him.

Maine voted in September; the telepresences gave out not only the vote count as it came in, but percentages, breakdowns and comparisons with previous totals. It was a Republican victory of course, and G. O. P. adherents proclaimed, "*As Maine goes, so goes the Union*," while Democrats noted the Republicans had got only 61.09 percent of the votes, whereas four years earlier it had been 61.11. All over the planet, billboards blaring the celebrated Elmersnort and Butterwaife faced equally-imposing billboards blaring the virtues of Fogbottom and Halibut.

At last the great day dawned. There were dust-storms near the equator of Arcturus Three, a rain of six-legged frogs over most of the northern hemisphere, and a volcanic eruption which poured out molten cinnabar in New Australia. "Republican weather," said the Democrats disgustedly.

BY NINE o'clock the returns from Quinick, Georgia, showed Fogbottom 9, Elmersnort, 0; at noon all the residents of Skunk Falls, New Hampshire had registered their choice: Elmersnort 16, Fogbottom 1—which gave the Democrats great heart, for at the last election they had gleaned no support in Skunk Falls.

By early evening it was clear that Elmersnort was carrying Vermont, Maine, Delaware, England, Sweden and Japan, while Fogbottom was ahead in Florida, Louisiana, Virginia, Poland, Saudi Arabia and Afghanistan. Nip and tuck.

At ten o'clock Ohio was safely in the Democratic column, Pennsylvania went Republican, but Michigan, Ontario and Brazil were overwhelmingly for Fogbottom. Newer Zealand was

three to two for Elmersnort, but Fogbottom had an edge in Missouri, Iowa, Kansas, Illinois, Holland and Turkey.

As usual, everything hung on California and everyone on Arcturus Three waited anxiously for the voice of the Golden State. At last it came in unmistakable terms: Fogbottom, 2,605; Elmersnort, 2,604; Fogbottom, 26,050; Elmersnort, 26,049; Fogbottom, 2,605,000; Elmersnort, 2,604,999. There was no doubt about it—a trend had been established and the Democrats were in again.

In the gloomy headquarters at the Nonunion League Club, obstinate politicians refused to give in; eighty-eight years before the Republicans had scored a stunning upset when all had seemed lost. Their jubilant rivals talked of a Fogbottom landslide. At last even the most optimistic Republicans had to bow to facts and figures: Hawaii and Denmark both rolled up majorities for Fogbottom and Halibut.

It was after midnight when the defeated candidate, Robert T. Elmersnort, appeared on the telepresence to concede his downfall in a sportsmanlike speech. In a few moments, he said, his victorious rival, to whom he offered not only congratulations, but every sincere wish for success, would

have the momentous honor, the highest distinction to which any on Arcturus Three could aspire. As for himself, he accepted the verdict of the voters cheerfully and he urged all his supporters to do the same.

The shining face of President-elect Grover W. Fogbottom was greeted by a concerted roar from the blow steamers. In a silvery voice he spoke of being deeply moved by the generous speech of his late opponent. At times like these all on Arcturus Three must never rust or break down, but must tune themselves to utmost efficiency. It had been a hard fight but a clean one, worthy of the Great Tradition for which they existed. *"And now,"* he concluded, as his finely jointed hand moved to a nearby switch, *"it is my duty and privilege to perform that solemn act which is the duty and privilege of every President-elect."*

Whereupon the victorious candidate pulled the switch and turned off the power on Arcturus Three. All over the planet the robots, self-repairing, practically everlasting masterpieces of ingenuity and skill, stiffened into inertness. They would not move for nearly four years, until it became time for the Great Tradition to be celebrated again.



STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1913, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

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LOUIS H. SILBERKLEIT
(Signature of Publisher)

Sworn to and subscribed before me this 14th day of September, 1951, Maurice Coyne (My commission expires March 30, 1952). (SEAL)

THE BLACK MAGIC OF YESTERDAY

By Eugene W. Nelson

More on the "wisdom of the ancients." . . . But it seems as if the old boys did have a bit of perfectly tangible, non-supernatural "wisdom" at that!

IT HAS been said, *The black magic of yesterday is the simple science of today.*

Nowhere in history is this more truly seen than in the methods worked out by kings and priests of pre-Christian times to mystify and awe the great masses of common people, thereby increasing the prestige, power, and authority of these priests and kings.

Such men possessed a very fair working knowledge of various sciences: acoustics, hydrostatics, mechanics, optics, and chemistry, judging by the imposing array of stunts and stage and sound effects which priests accumulated during the centuries. In fact, almost every branch of the basic sciences seems to have contributed its share to the wonders of the ancient magician's budget.



Sekhmet had a woman's body and a cat's head...

This system of imposture was greatly aided by general ignorance concerning the fundamentals of science in those early days. When knowledge is the property of a comparatively small group of men, it is by no means difficult to employ it for the subjugation of people. Thus, an acquaintance with the motions of the sun, moon, plan-

ets, and stars would enable its possessor to predict astronomical occurrences with a frequency and an accuracy which would not fail to lend an aura of divinity to the prophet. Again, the power to "bring down fire from heaven"—as well as the ability to render the body insensible to fire—could be regarded by the populace as nothing else but gifts from the gods.

The secret use which was thus made of simple scientific discoveries, and of mechanical contrivances, no doubt delayed the progress of science immeasurably. It has also made it difficult for modern scholars to obtain a comprehensive picture of the actual attainments of the ancients in the various fields of science. However, sufficient evidence has been collected to show us that almost every one of the basic sciences was known and used.

The science of acoustics seems to have furnished priests and kings with some of their best and most startling deceptions. The golden virgins, whose ravishing voices resounded through the temple of Delphos; the stone near the river Pactolus, whose reverberating trumpet notes frightened away robbers from the treasure it guarded; the speaking heads which uttered oracular responses at Lesbos—all these were deceptions derived from an application of the fundamentals of acoustics.

For instance, in the labyrinth of Egypt—which contained 12 palaces and 1500 subterranean apartments—the gods were said to "speak in a voice of thunder". Pliny, during whose lifetime this singular structure existed, tells us that some of the palaces of the labyrinth were so constructed that whenever the doors were opened, peals of thunder were heard from the interior. Unfortunately, we have no indication of how this particular sound-effect was produced, although it is quite possible that—in the subterranean and vaulted apartments of the Egyptian labyrinth—the reverbera-

tions arising from the mere opening and shutting of the doors themselves gave a passable imitation of thunder.

Again, when Darius Hystaspes ascended the throne of Persia, and allowed his subjects to prostrate themselves before him as a god, the divinity of his character was impressed upon his worshippers by bursts of thunder and flashes of lightning. Here, again, no definite information has been discovered to tell us how the demonstration was staged. Some scholars, however, have suggested that—in this instance—the thunder may have been produced by rattling or striking a thin sheet of metal—a procedure which was used for years in the theater and also in the early days of radio. The lightning could have been produced by priests throwing powdered rosin, or lycopodium dust, through a flame.

THE PRINCIPAL pieces of acoustic mechanisms used by the ancients, however, were the statues of the gods which spoke. One device for making the gods "speak" and deliver their commands personally was discovered in Syria, shortly before the outbreak of World War I, by British archaeologists. In a temple at Tell Barak, they found a secret chamber behind the altar of the local god. In this chamber, so placed that a priest could use it conveniently, was a mouthpiece. A speaking tube connected this mouthpiece (the grandfather of our modern microphone) with an opening in the altar directly in front of the statue of the god.

The worshipper, after asking a question or a favor of the god, was thunder-struck to hear a hollow, mysterious voice answering his question. It probably never occurred to the frightened man to doubt but that the god was speaking to him, personally.

In Pompeii, too, a secret stairway has been uncovered, from which pipes led into the back of the head of a

huge statue of Isis. It was through these pipes that the priests uttered their oracles and issued commands which—coming from such a popular goddess—probably carried far more weight than they would have, had they been issued by the priests in person.

Again, in 1864, a great statue of Hercules Magnus was uncovered in Rome. A hole, about a foot in diameter, was found in the nape of the statue's neck, through which an active child could slip into the Colossus. In the presence of several leading archaeologists of that period, a child was actually placed inside the statue and was asked several questions by the men outside. It is reported that "there was a solemn, almost supernatural intonation about the voice of the child" when he answered the questions.

That some of the early Christians were fully aware of this method of deception, and were not afraid to expose it to the people, is suggested by a passage in the "Ecclesiastical History" which Theodoretus wrote about the year 430 A.D. Theodoretus relates that Theophilus, Bishop of Alexandria, broke the statues of the gods in that city to pieces. Then Theophilus showed the city's inhabitants that some of the statues were hollow and so placed against the walls that the priests could creep into the statues and deliver their prophecies and oracles. The "History" goes on to tell that the temples were ordered torn down and pagan priests were chased from their hiding places in the hollow idols.

In addition to this "direct-action" method of making the gods deliver their judgments, by means of priests hidden inside of statues or using speaking tubes, it is claimed by some authorities—and denied vehemently by others—that some of the ancient priests were expert ventriloquists. According to the one school of thought, even in very early times Egyptian

priests knew how to make effective use of "paunch prattle". This bit of deception was practiced in order to make not only the statues of the gods, but also the "sacred" animals such as cats, dogs, and bulls "talk".

It is believed that the actual ventriloquism was carried out by minor priests who were provided with written "lines" prepared for the occasion by the more advanced high priests. During sacrifices, pageants, etc., the ventriloquists took their cues from their superiors, reading their "scripts" and making their voices apparently issue from whatever animal or object was being worshipped by the masses at the time.

THE FIELD of optics, too, seems to have been a fertile one for the scientifically-minded priests of antiquity. Even though the ancient races were not acquainted with those combinations of lenses and mirrors which constitute the microscope and the telescope, they were certainly conversant with the properties of plane, concave, and convex mirrors—singly and in series. As for the materials from which such mirrors were made—there is abundant evidence to show that the Egyptians, and other people of antiquity, used mirrors of polished silver, copper, and an alloy of copper and tin. It is extremely doubtful if steel mirrors were employed to any great extent, since steel did not come into general use until Roman times. Moreover, steel rusts and corrodes easily—a trouble which would not occur to such an extreme degree with the non-ferrous metals just mentioned.

One or more mirrors—correctly placed and manipulated—was apparently the instrument by which such stupendous effects as the actual appearance of various heathen gods from out of clouds of light and into the temples was stage-managed. In the imperfect accounts which have come down to us, describing these arrangements and apparitions, all the elements

of the optical illusion can be traced. Today, of course, any good photographer can take a picture showing twenty pretty girls, simply by using one pretty girl and a number of mirrors. In ancient times, of course, such knowledge belonged only to initiated priests and kings and was jealously guarded by them.

In the ancient temple of Hercules at Tyre, for example, Pliny tells us that there was a great seat of consecrated stone "from which the gods easily arose". Esculapius often showed himself to his followers in his temple at Tarsus; the temple of Enguinum in Sicily was justly celebrated as a place where the various gods and goddesses exhibited themselves to mortals; and Jamblichus claims that the ancient magicians caused the gods to appear "amid fire and clouds".

An example of this particular sort of delusion is contained in a description written by Damascius describing "mysteries" that took place in the temple of Osiris (or Adonis) in Alexandria. *In a manifestation, says Damascius, which ought not to be revealed...there appeared on the wall of the temple a mass of light which at first seemed to be very remote; it transformed itself in coming nearer, into a face evidently divine and supernatural, of a severe aspect, but mixed with gentleness, and extremely beautiful. According to the institutions of a mysterious religion, the Alexandrians honored it as Osiris and Adonis.* Productions of apparitions of this nature with mirrors is a much more logical explanation than the claim made by certain scholars that "mass hypnotism" was employed by the priests.

ANOTHER optical illusion used to fool the worshippers made use of a clever architectural device. In the shrine of Sekhmet—(a goddess with the head of a proud lioness)—at Karnak, a small aperture was left in the roof above the head of the statue. To the worshipper coming into the room,

out of the blazing glare of the Egyptian day, the dark temple at first appears to be empty. However, as his eyes become accustomed to the semi-gloom of the room, the black, granite lioness-headed statue of Sekhmet appears before him, growing darker as the chamber becomes lighter. The reason for this optical illusion lies in the arrangement of the lighting and in the fact that the statue is actually darker than the surrounding gloom of the chamber.

The principles of hydrostatics was also employed, to some extent, to further the work of deception practiced by the ancient priests. The marvelous fountain (described by Pliny) located on the Island of Andros, which discharged wine for seven days and water during the rest of the year; the three empty urns which filled themselves with wine at the annual feast of Bacchus in the city of Elis; the various "weeping" statues—these, and other similar phenomena, might easily have been worked by the manipulation of liquid pressure.

Although we usually think of the ancient races as having been somewhat deficient in mechanical skill (at least, compared to our modern American standards), some of the most telling effects produced by the priests of Egypt, Babylonia, and other countries were effected by means of novel and ingenious mechanical devices. For example, there were the "miraculous" statues of the gods—statues which made known their wants and decrees by nodding their heads, raising and lowering their arms, and by other motions.

According to Maspero, the great Egyptologist who has most thoroughly investigated this particular phase of ancient trickery, these images were made mainly from gilt and painted wood. They had movable parts, so jointed that the statues would move their arms and heads, bend their knees, and make other movements when strings, attached in some un-

known manner to these parts, were pulled.

When these idols were addressed, they replied either by gesture or by voice. Thus they gave the correct verdict on any particular question. In each temple that possessed one or more such idols, certain priests were delegated to the job of pulling the right string at the right moment, making the god nod his head in benediction or approval, shake it in negation or anger, or perhaps even raise his hand to confer a blessing upon some especially-worthy worshipper.

At least two examples of priestly interference with Egyptian politics, by means of these miraculous idols, have come down to us. These instances involved Thutmosis III and Alexander the Great. In both cases, we are told that the statue of the god, passing in priestly procession, stopped and bowed down before these men, thus singling them out as future Pharaohs of Egypt.

We are not told, however, whether a voice accompanied these priestly manipulations of the statues on these two particular occasions. Thus we have no way of knowing whether the voice of an unseen priest, hidden in the dark recesses of the temple, boomed forth at the dramatic point; whether a ventriloquist was used, or whether the statue merely bowed in silence. But at least we know that the statue moved.

FURTHER proof that the ancient priests were not above using their mechanical tricks for their own advantage is shown in an interesting little story told in one of the reports of the 1934-1935 Egyptian Expedition of the Metropolitan Museum of Art. The stone tablet from which this story was translated was among numerous articles unearthed at Heirakonpolis—an important city of early Egyptian history on the Nile some distance above Thebes—by a party headed by Dr. Ambrose Lansing.

Har-em-khau-ef, priest of Horus

(the falcon god) at Heirakonpolis, was the man whose self-recorded history was found. Reading between the lines which the priest actually wrote, it is all too evident that this man found life on the Upper Nile unbearably dull. Nevertheless, he bided his time and waited until the time came when he could do something about it, and get away with it. This opportune moment was when a king was to be crowned at Ith-towe—down the river not far from Memphis, a metropolis of that age—amid great feasting and scenes of pageantry so dear to the hearts of the ancient Egyptians.

Thus, to quote the story as it is unfolded on the stone tablet, *Horus... charged me with a mission to the court in order to bring (the images of) Horus of Hekhen, and his mother Isis.* It is considered probable that the priest put the question of this junket down the river to the statue of Horus and made the idol nod his head, thus giving the priest authority to make the trip to Memphis for the coronation activities. At any rate, Har-em-khau-ef made the trip, taking his mechanical idol with him. It seems to have been the high-spot in the priest's life, judging from the biographical tablet which he prepared for his own tomb.

Another mechanical contrivance was originated by the priests of Alexandria, and was used to open temple doors automatically, to the consternation of awe-struck worshippers. When the priests wanted to increase their revenues they would close the doors of their temple, thereby signifying that the gods were displeased with the presents which the people had been bringing. After a sizeable crowd had gathered in front of the temple and their gifts satisfied the priests, the latter would build a fire on an altar near the gates. To the accompaniment of "Oh's!" and "Ah's!" from the gaping worshippers, the temple gates would slowly open—although not a single pair of earthly hands was laid upon them. Clearly, here was a miracle!

A MIRACLE it was in reality—for those days, at least—since the mechanism which opened the doors embodied all the essential elements of the first practical steam-engine. Underneath the altar was an enclosed area filled with air at ordinary pressure; the air-chamber was connected to a water-filled vat by means of a pipe. Heat from the fire kindled on the altar expanded the air in the chamber underneath the altar; the force of the expanding air pushed the water from the vat, on through still other pipes, and so into buckets that were attached to the doors of the temple. As the buckets became weighted with water, they acted as counter-weights and slowly pulled open the temple doors. Naturally, the buckets were concealed.

Fire, because of its spectacular nature, was used in many of the more dramatic demonstrations by the ancient priests. One such was practiced by the pagan priests in ancient Palestine. When the priests of Baal performed this trick, they placed the sacrifice on the altar and then—in full view of the assembled multitudes—prayed loudly to their local Baal for fire. Eventually, the kindling and the logs would “miraculously” catch on fire and consume the offering; thus the priests would rise still further in public esteem.

Here’s how this particular stunt was performed. Cleverly concealed under the altar was a large pit; several “channels” connected the pit with the altar proper. Before the sacrifice was started, a minor priest built a fire in the pit and tended it until he heard the high priests above him begin to call on Baal to send fire. Then the helper blew up his bonfire with bellows (bellows were being used as early as 1600 B. C. by metal workers, as is shown on Egyptian tomb and temple paintings). The flame—forced through the “channels”—set the wood to burning and created the effect of having in truth been sent by Baal,

in answer to the pleadings of his servants.

Incidentally, this priestly custom explains a certain passage in the Bible—I Kings 18, 30-35. In these verses there is a description of how the prophet Elijah prepared for his great duel with the 450 priests of Baal on Mount Carmel. After Elijah had prepared *his* altar with its wood and sacrifice, he ordered water poured over it three times. He took this precaution to show the opposing priests that *he*, at least, had no fire concealed in a pit below the altar, but that he was depending solely on his God to send down the fire.

Some scholars also believe that the pagan priests occasionally “called down fire from heaven” by means of a burning glass held in such a manner that the populace could not see it. Certainly, the ancient priests were acquainted with glass lenses.

The ability of the lodestone to attract iron was also used to mystify people. Thus, certain priests prepared statues of the gods and goddesses from it, and made other statues of iron. When placed close together, the iron statues would move towards those made of lodestone at the command of the priests. Thus, the priests would convince the people that they had power to command the movements of the gods.

Ruffinius informs us that the temple of Serapis—favorite god of Ptolemy I—was found to be filled with secret passages and machines constructed for the impostures of the priests. Among other things, there was a great lodestone set into the temple’s ceiling directly above the statue of Serapis.

On a certain day of the year the beams of the sun—entering through an aperture on the east side of the temple—fell full upon the mouth of Serapis. At this instant, the priests would bring in an “image of the sun” made of iron. This image the priests held close to the statue of Serapis—

and incidentally, close to the huge lodestone. The iron ball then rose up and attached itself to the natural magnet, hanging in front of the god's face while the priests explained to the worshippers that the sun itself was saluting Serapis. If this trick worked—and Ruffinius claims that it did—it must have been a honey!

GREATEST of all ancient hoaxes, perhaps, was the oracle at Delphi. Here, according to popular belief in olden times, the priestess (or sybil) inhaled gasses which issued forth, naturally, from a crevice in the ground. The fumes were said by the priests to be the sacred emanations supplied by the gods, and they threw the sybil into a "sacred" trance. While in this state of trance, the priestess uttered a meaningless jumble of words and sounds which were believed—by the common people, that is—to have been inspired directly by one or another of the various Greek gods.

The ravings of the sybil were later translated by the Delphic priests into a sort of double-talk—often in rhyme—which usually had two diametrically opposed meanings. So it was that when Croesus, fabulously rich king of Lydia, asked the oracle at Delphi what would be the outcome if he made war on the Persians, the oracle's answer was, *If you march against the Persians, you will destroy a great empire.*

The vain Croesus took this answer to be an omen of good fortune. He attacked the war-like Persians, who liquidated the Lydian armies and captured the royal person of Croesus with the greatest of ease. But of course the oracle was right—only the "great empire" which was destroyed happened to be the empire of Croesus!

It has long been known that the priests of Delphi kept a large group of "undercover" men in all the great empires of that time. These spies made frequent reports to headquarters at Delphi of all the important movements which they discovered. By putting all of this information together, the

priests were in a position somewhat analagous to that of our modern Washington columnists who broadcast "forecasts of things to come" from an intimate knowledge of the secret doings of our own and other governments.

In addition to translating the sybil's wild ravings in any manner they saw fit, and basing this "translation" on their knowledge of world events, the priests had also concocted a mechanism so that there would never be any lack of the "sacred emanations" which threw the prophetess into her trance. For these fumes were *not* natural gasses rising from the bowels of the earth, at all; they were manufactured as needed by the Delphic priests who overlooked no detail so that their oracle factory should function on schedule—and also to their own best advantage, as witness the enormous wealth gathered at the Oracle of Delphi.

RECENT archaeological research has proved that the gasses were produced by human agency and were *not* natural. Investigation has also shown just how the fumes were piped from the source of their inception, through the floor of the sanctuary, and so to the very feet of the sybil herself.

As the fumes—which were produced in a small chamber immediately beneath the tripod on which the sybil sat—rose about the girl, she inhaled them and so passed into an artificially-induced trance. Scientists are not yet agreed on what substance was used to produce such powerful fumes. It is the opinion of L. B. Holland—authority on Delphi—that the substance may have been some form of hashish. Moreover, Dr. Holland believes that the priestess may have helped matters along by chewing the leaves of the oleander, which contains a toxic element akin to digitalis in its action. Mr. Holland, however, adds that he does not know what the exact results

[Turn To Page 127]

It Says Here

(continued from page 8)



than I have, but that \$2.00 check you sent me for my last letter keeps on getting in my way. I guess the letter you used was all right, but every time I'd begun to write you again, I'd wondered whether the stuff I was penning was good enough. And I'd decide that it wasn't, and tear it up. It's funny in a way, because I can see that your policy isn't just a means of getting nice sugary comments. You've published much stronger criticism than mine, and I wasn't holding back, either.

"The other books must have some sort of standards for letters, too, but I never think of that when I write to them. I just go ahead and say what I think. If they print it, fine—I like to see my opinions in print and like to see the editor's comments on them. If they don't get printed I just forget about it and try again. Nothing lost. But I wish you'd put your departments on a non-paying basis and just let the best liked letters bring us originals if you want to give away something. Then it's really more exciting and something of a contest, too."

So be it. This has been a very frequent complaint, lately, and it sounds reasonable enough for me to try it. I want letters, and I want to read in those letters what you fans and readers feel like writing.

So I'll borrow a leaf from one of my worthy colleagues, and suggest that those of you interested nominate the three best letters in this issue.

Originals to the winners. RWL

Letters

ATTESTATIONS WANTED

Dear Sir:

Science Fiction Quarterly has led the field in science-fiction, and may it continue to do so. From time to time, you have seen fit to publish articles of factual science. These articles have proven instructive, and beneficial, and they have always been accurate.

"The Wisdom of the Ancients" by Mr. de Camp was an interesting article. It made good reading. Such an article as his, however, might mislead those who have not gone into the matter of the pyramids, and ancient Egypt. There are books and books on the subject. Esoteric writings. Analogies on every phase of the culture. I think it unwise to print such articles as Mr. de Camp's unless attested by recognized Egyptologists. Your recent article could be very misleading, because the author shows only a superficial knowledge of his subject. The reference library is not sufficient on one or two visits to constitute an authoritative attitude.

Mr. de Camp has neglected to mention so many known facts about the Egyptians of ancient times. He has neglected to mention the names of the most accepted authorities on Egyptology. If you intend to introduce scientific articles, they ought to be acceptable to the scientific world; though denouncing established beliefs and theories, yet some verification of the new theory must be made. I am afraid Mr. de

Camp has set out upon a field that he is not completely familiar with. There is no reason, of course, why you should not publish an article such as his, but such an article would require a set of marginal notes that would be longer than the article.

Very often magazines publish articles on debatable subjects and in presenting their articles allow first one authority to voice his opinion and another reliable authority his. When this is done it leaves the subject wide open for fair debate.

The story of Egypt is so interesting, beautiful and tragic; to be handled in such a manner as Mr. de Camp's is high-handed. Let us then have another article by someone else, showing clearly when Mr. de Camp is authoritative and when he isn't. Anyway, Mr. de Camp oughtn't to escape scott free. Let's have it out with him.

Thatcher M. Adams,
"Cameron House",
Southampton, Bermuda.

(Our pages are wide open to anyone who wishes to take issue with Sir Sprague, or with any other scribe we use. But if you want to see a debate, you'll have to make more specific charges; the accusation of superficial knowledge of one's subject is specific, of course, but it doesn't mean much unless you adduce some evidence—after all, the burden of proof lies with the prosecution. I'll let Sprague take over from here.)

CLUTTERED COVERS

Dear Mr. Lowndes:

After having read the first two issues of *Science Fiction Quarterly*, and being a regular reader of *Future*, I think I can finally find myself able to add a few comments, good and bad.

As for the test of your magazine, I think that the stories are very good (due to your selection of writers) and the illustrations by Finlay, Luros, and Poulton are wonderful. (Especially Finlay!) As for your cover, I think there is room for improvement. I believe that the average science-fiction reader doesn't mind waiting until he or she opens the magazine to find out what the titles of all the stories are, and who wrote them. I think you ruin a perfectly good cover when you clutter

it up with titles, a big heading, and various other data. As far as your first two covers went, neither was worth raving about (mainly because of this cluttering-up). But, as I mentioned, they were only the first two; there are a good deal more to come, and I guess time will tell.

I also would like to see a longer readers' section, more fact articles, and absolutely (so far, so good) no serials. I think I have a lot of support as to a dislike of serials. Taking everything into consideration, I truly think SFQ has a wonderful chance of ranking on top in the science-fiction field, with such competitive magazines as *Future*, *Astounding*, and *Amazing*. Keep up the good work.

Jay N. Edelson USNR,
1475 Grand Concourse,
Bronx 52, NY.

(We're on a campaign to unclutter the covers, and you'll see some improvement on the frontispiece of this issue, in that direction. Serials, of course, are out of the question in a quarterly magazine, so you do not have to worry on that score.)

The science-fiction magazine field is a highly competitive one, and we just can't assume that every science-fiction reader will automatically reach for each issue of SFQ or *Future* as soon as he sees it. If we didn't run some titles and authors' names on the cover, many potential buyers might be swayed to some other magazine, simply because the titles and authors' names listed appealed more than the bare picture on SFQ. Besides, we're trying to appeal to non-regular science-fiction readers, too.)

NOT THE LAST

Dear Mr. Lowndes:

Just finished the November issue of *Science Fiction Quarterly*. This was my first copy of your publication but it won't be the last. Not having read the previous issues, I cannot make a comparison of the stories and the magazine in general; but I can tell you my reaction to the November issue, as I have been reading this type of literature for some thirty years, and feel that I am quite qualified to express an opinion.

Hard to decide which story was entitled to first place. Two of them ran almost neck-and-neck, "Fugue" and "Survival of the Fittest". "Fugue" won by a narrow

margin. I especially enjoyed this story, because its theme was the old concept, "the same system under a different name"—as for example, fascism and communism. Get a long novel by this author.

Second comes "Survival of the Fittest". The author of this story makes use of a surprise twist that is excellently handled. The concept that humans are the laboratory-product of superior intelligences, with the power of reproduction, is not so far-fetched. A good story, although I don't remember seeing anything by this author before. A new writer? Let's have more by same.

Third in order is "Black Alarm". A very fair story based on the fact that no-one is free, but only think that they are. "Black Alarm" was a little weak in spots because Hagen jumped the fence too quick, his hate changing to love simply because a planet was threatened by the path of free energy. It was feasible, but somehow, in the story, it seemed weak and insufficient.

Fourth in line is "Fool's Errand" by Lester del Rey. A fair story with a different and interesting slant on time-traveling. I believe that this could have been much longer without detracting from the interest.

Now comes fifth place, with "The Belt". Fair, but evidently written in a hurry, yet a good theme.

Sixth and last is "We Shall Come Back". This story really missed the boat. The idea is okay, but there is nothing to it but the sea-people running, without clearly describing what they were running from. Just what sort of machine was it that chased the sea-folk? Just where was it they went when leaving the great deeps? A little more stress on these points would have made the story much more readable. Definitely not material for a lead novel, in my opinion, even if I did manage to wade through it. Just who is C.H. Liddell? Surely he can do better.

Now for the articles. "Wisdom of the Ancients" was the best part (to me) of the entire issue. More power to author L. Sprague de Camp. I'll be looking forward to seeing more articles by him in future issues.

In my opinion, the artwork is okay, seeing that it is necessary to use a very coarse screen when printing on heavy pulp paper. Some readers make too much fuss over

little things, without considering the cost it would involve to change them. I read a science-fiction or fantasy magazine for entertainment, and I fail to see any object in criticizing the artwork. Artwork will arouse interest in a story quicker, especially for new readers, but I like 'em just the same, artwork or no artwork.

I have only one suggestion: give us a long lead novel each issue.

Andre Von Bell,
2221 Parkway Drive,
Winston-Salem, N. C.

(It seems to me that one of the points of "We Shall Come Back" was that the sea-people could not know, nor understand, what the enemy was or whence it came. The author could have explained by stepping out onto the stage and ringing down the curtain while he told us this interesting background material; but the story would have stopped dead while he was doing it. Again, I think that it didn't make any difference to the main problem of the lead character whether the reader is told the whys and wherefores of the destroyers. But...I've been wrong before...

Artwork has been a *cause celebre* with science-fiction readers from the very beginning, and, personally, I wouldn't have it otherwise. Of course, what you think is a poor picture *shouldn't* impair your liking of the story it illustrates, or keep you from reading the story; but most people are affected one way or another by the illustrations. So we want to have good artwork—and the louder and more frequent the complaints when readers are dissatisfied, the better chances of improvement.)

EXPANSION WANTED

Dear Mr. Lowndes:

Having nothing else to do, I thought that, for once, I would let you know that I existed. Not meaning to be egotistical, I praise myself for picking your magazine out of the mess that confronts me on each trip to the drugstore. A fine piece of work, if I do say so myself.

In everything there is the good and the bad. The general appearance of your magazine is a little dismaying, with the running-together of the colors. As much as I hate comparisons, the blue backgrounds of *Thrilling Wonder Stories* make the best impression on me. Not only blue, but the

other colors that are outstanding. Of course, not all TWS covers are blue, but, all in all, their covers are best.

In stories, though, there is no second place for either *Future* or *Science Fiction Quarterly*. With these magazines I can relax and be assured of an entertaining evening. With the stories in mind, here is how I rate them:

1st, and far beyond the others, is "Survival of the Fittest". I know that I will be open to much controversy, but this was one of the few stories I've read that made sense. Maybe they aren't supposed to make sense—but I want to hear more out of Henderson.

2nd is "We Shall Come Back". It proves good discussion on the last years of the world. It also makes a collector's item in that category.

3rd place goes to "The Black Alarm". No comment. No comments, either on (4th) "Fugue", (5th) "The Belt", (6th) "Reaching for the Moon", (7th) "Fool's Errand".

Just two more complaints and then I'm through. Please, for cripes sake, trim your edges. Nothing is prettier than a well-trimmed science fiction magazine. Last, but not least, encourage more letter-writing; expand the letter-column. Everyone enjoys reading the opinions of others and writing them a letter or two. Some beautiful friendships have started that way.

Vic Waldrop, Jr.,
212 West Avenue,
Cartersville, Georgia.

(Everyone doesn't enjoy reading the letters but the dissenters remain an oppressed minority, so we're expanding the letter-department as you and many others have urged.... Any story published is supposed to make some kind of sense—even nonsense has to have some sort of point, if it is to be enjoyable. And, once in awhile, one can enjoy a bit of nonsense whose whole point is pointlessness.)

WIDE-OPEN SECRET

Dear Mr. Lowndes:

Science Fiction Quarterly is improving, fictionally, but there is still some fault to be found with your covers. I believe "Lurid Luros", as I have christened him, tends to drive away potential buyers, rather than

attract them. I realize that you have little or nothing to do with what goes on the covers—but if the demand warranted it, something could be done. An attractive cover, particularly in the case of the non-reader, goes a long way towards inducing one to buy a magazine.

Fictionally speaking, now, the stories in each issue are getting progressively better. Naturally, there is still room for improvement. I would rate the stories so:

"Fugue": the idea of a space ark intrigues me. Mr. Marlowe, who doesn't seem to be "earthbound", did a good job on this one. More.

"We Shall Come Back": this is second mainly because of its vagueness in certain sections. A few particular parts were hard to follow. However, the over-all story was very good. But why the Liddell by-line? Everyone above the age of twelve knows that it's a nom-de-plume of the Kuttners, so you aren't divulging any secrets.

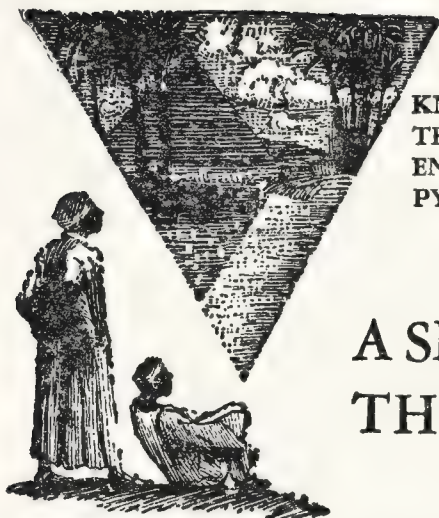
"The Black Alarm": would have rated higher if it hadn't followed a well-defined pattern. By that, I mean you could guess just what was going to happen next, and predict the end with fair result. I suppose it's too much to expect Smith to depart from his well-worn path, and turn out something fresh and more-or-less different.

"Survival of the Fittest": rates fourth, just above average. A tried-and-true theme, but it was handled well. I have a sneaking suspicion that "Henderson" is a pen-name for some well-known writer. In fact, though I shudder to say so, it reads like a Kuttner!

Of the shorts, I would rate Wallace West's, "The Belt", head and shoulders above the rest.

A few words on "As I Was Saying": In your first paragraph, with sarcasm as subtle as a baseball-bat, you hamstring Gold for his statement about pulps being a thing of the past. While I am far from being in complete agreement with this assumption, I do believe that at least a part of what he said is true. The day is fast approaching when science-fiction, or 90% of it, will no longer be relegated to the pulps, and will discard the pulps as a moth deserts its cocoon. This is not a slur on the pulps, which will have had the notable distinction of bringing science-fiction along to the public, but is simply a facing of the facts.

"It Says Here" seems to be unusually
[Turn To Page 118]



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brief this issue. I hope you plan on lengthening it. The letters were lively enough, though.

Milton Lesser—well! A noteworthy author in our midst. But shame on you (fan that you were) for not knowing that Joquel Kennedy is in reality Joe Kennedy of fan-fame.

Mrs. Bormartin: come, come, now—aren't you being a little overdramatic? Most women, and they admit it, *like* to be told what to do. Of course, after you've been married for a few years, no doubt, the novelty wears off...

Jan Romanoff,
26601 So. Western, Apt. 341,
Lomita, California.

(Hmm, we all seem to agree on one point: an "attractive" cover will attract the potential reader; an "unattractive" cover will not. Where we fall out is the second, and vital, question: what's an "attractive" cover, and for whom? Meanwhile "Lurid Luros", whom you unwittingly compliment—since that is what he was asked to do—tries to make an "attractive" cover within the limitations set

for him. And your christening shows that he's succeeded!

Incidentally, the August cover will be different; Luros tried to break away from the beaten path a bit, and if you think this is an improvement, please let us know—and tell your friends to let us know, too!

I didn't know the identity of C. H. Liddell, when "We Shall Come Back" was submitted, though I had suspicions upon reading the story. And a bit of detective work on some clues the author neglected to remove from the scene, established my suspicions in short order. However, the story was submitted, by an agent, as a "Liddell" story, and any author has the right to choose his by-line. Sometimes there are very sound reasons for it; sometimes there are illogical reasons; but, in any event, the author has the last word. And the author's agent told me that this was the name the author wanted used, were the story to be published.

Lord ha' mercy—I wouldn't want to hamstring or baseball-bat *any* colleague. Just what happens when I attempt humor, I reckon. The object of the humorist, as Will Rogers put it, is not to carress but to goose—and I thought that brother Gold's overstatements called for the light finger.

I'm afraid, though, when you speak of science-fiction discarding the pulps you are facing not fact, but fantasy. We are assuming that the pulps will remain for the nonce, of course. So long as there is a market for science-fiction then pulp-publishers are likely to continue science-fiction titles on their lists; if the science-fiction pulps all disappear, while other pulps continue, it won't be because science-fiction has "discarded the pulps" but simply because pulp-buyers no longer pick up pulp science-fiction magazines in sufficient quantities to make them profitable. Such a thing *might* happen, but there's little evidence to indicate it is about to happen.

Beware of personalizing categories of objects—such as "science-fiction stories"; it can lead you into nonsense predictions, among other things!

●

SHORTER STORIES PREFERRED

Dear Editor:

I have just finished reading the November 1951 issue of *Science Fiction Quarterly*, and I certainly enjoyed this magazine, which I am seeing for the first time.

There is no doubt that many of your readers enjoy stories like "We Shall Come Back", and "The Black Alarm", which are tales of the future, and interspace travel; but I prefer shorter stories like "The

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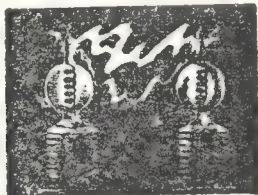
Belt", "Survival of the Fittest", and "Fool's Errand".

In my opinion, placing a story in the year 3000, or in a rocket-ship, and proceeding with an adventure tale, does not constitute making science-fiction. To me, science-fiction should have a scientific background, and of course "Survival of the Fittest" really belongs.

I will look for your publication on the newsstands in the future.

E. G. Greenwood,
146-18 13th Avenue,
Whitestone 57, New York.

(The nature and amount of "scientific background" which ought to be in science-fiction stories remains a moot point. Most readers agree that merely placing an adventure story in the future isn't enough, but at that point opinions begin to diverge. Discussion welcome!)



ON FLYING CITIES

Dear Ed:

Had filled out your preference page, but ran out of room. First, assume that you have a good magazine; I like it and I always have a willing two-bits for it, so don't let what I might say prompt "lem-on" mutterings.

The cover: not as good as usual. A flying city wouldn't have quite those shape buildings, I think, and that stream of energy looks like another metal.

Order of preference on stories: "Rogue Princess", "Three Worlds in Shadow", "Communicado", "Ordeal on Syrtis", and "Intervention".

Whys and wherefores: Illustrations were better than average, except for "Ordeal on Syrtis". It threw the story into the "space-opera" class, which it is not. "Rogue Princess": good story, very well handled; illustration was the best in the issue. "Three Worlds in Shadow": excellent handling saved story from the usual fate of over-worked themes. "Communicado": exact theme was new to me; I liked it very well.

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SCIENCE FICTION QUARTERLY

Well-handled food for thought. "Ordeal on Syrtis": as mentioned above, the illustration spoiled this one for me, but I found the story pretty good on re-reading. "Intervention": got nothing out of this, but maybe I'm just not Sherman's type.

Ronald E. Deckman,
610 West 111th St.,
New York 25, NY.

(I'll let Sherman handle your complaint on the "flying city".)

Dear Mr. Lowndes:

It looks as if I'm a two-time loser, so far as Mr. Deckman is concerned, because I cannot give him any satisfactory reason *why* my "flying city" is the shape portrayed on the cover for my story, "Intervention". (And I can't blame the artist, because I thought, when I saw the cover, that it was a rather nice portrayal of the city.) I haven't seen any real-life flying cities, haven't talked with anyone who has, nor even gone into serious theorizing on the subject of how they ought to be constructed. It seems to me that the only answer I can give really falls into the same classification as the argument about space-ships going faster than light. Someone asks "why", and author replies, "why not"? No one has proved it one way or another, and there are no means of proving it either way, as yet. (On the space-ship business, of course there are the Einstein theories and stacks of intricate math, but you can prove too damn much with figures; lots of times, it's turned out that you proved nothing at all. All we know for sure—at least all the public has been let in on—is that nothing travelling faster than light has been observed as yet.)

I'll admit, too, that the city was mostly a device for the sake of the story—although I sort of like the idea of a roving city, and let the psychology and psychiatry, etc., bugs make what they want of that!—and I didn't spend as much thought upon it, in itself, as I would have had it been a more essential part of the story. I mean that some other device could have been used without an essential change in the story—while an alteration in the social backgrounds and psychology would have resulted in a completely different story.

[Turn To Page 122]

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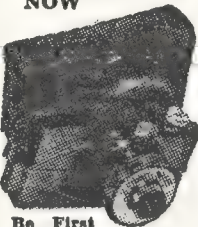
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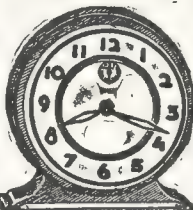


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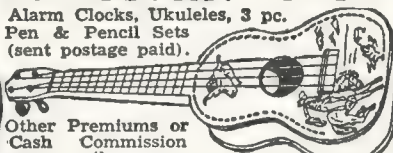
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SCIENCE FICTION QUARTERLY

I hope I'm not betraying the cause of authorism by not going into a lecture now on why Mr. Deckman was short-sighted, at least, in not liking "Intervention", and why it was easily one of the ten best of any year. Naturally, I think it was a good yarn, and I have quite a fondness for it; but as Don Quixote said, there's no father or mother to whom their children seem ugly, and this delusion is even more prevalent in respect to children of the brain!

So I'll admit that Mr. Deckman may be right in thinking little of the tale, but I hope it's just a case of individual incompatibility, and that I'm not a minority of one.

Michael Sherman

(Two, at least, Mr. Sherman!)

NOVELS PREFERRED

Dear Editor:

I have been reading science fiction for a number of years, and I am glad your policy may be going to change on the length of the stories.

Here's one vote for book-length novels. I very seldom even try to read the short stories, and I subscribe to ten or more science-fiction magazines. They are seldom worth reading; the author does not have time to bring out an interesting plot.

I notice that *Amazing*, *Fantastic Adventures*, *Other Worlds*, and most of the other science-fiction magazines have readers who are in accord on long book-length novels. And very few novelets and short stories. A poll several months ago, for *Amazing*, showed 4 to 1 in favor of long stories.

How about a continued long story? I think it would be delightful to wait 3 months; the suspense would then be great.

How about placing an extra loose leaf for the voting coupon, as most of us do not wish to tear out even one page?

I am also in favor of reprinting some of the great stories of the past.

Alton Maddox
 Garner, Texas

(Since the payment-for-letters business, I've learned not to be misled by the early returns on a question. The books have to come out on a regular schedule, while

[Turn To Page 124]



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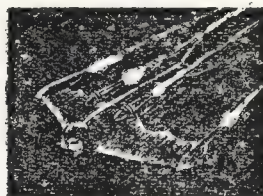
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SCIENCE FICTION QUARTERLY

readers and fans write in at their convenience—which, annoying as it may be to the editor, who wants to see a lot of letters right after the issue appears in the stands—is as it should be. So I'll just note that, so far, the vote seems to be in favor of using longer-length novels when we come across exceptional ones, but not to strap ourselves with a policy.

Personally, I'm a sucker for serials; always have been. Every time an issue of my favorite monthly science-fiction magazine appears without a serial, I feel robbed. But there's a lot of opposition to serials, too. However, the clincher with us is that very few readers would be as willing to wait 8 months for the next installment of a story as you are.)



BLOCK THOSE BLURBS

Dear Editor:

If I am like the majority of fans, and I think I am, you had better stop putting your editorial comment right smack in the "middle" of a good story. I don't mean "middle", exactly, but I do mean after the story starts. This has been a regular occurrence, and I wish it would stop.

What you have to say is very interesting, I admit, but so is the story. Not that I want you to discontinue your comment; on the contrary, I want you to continue it—somewhere else. You could put it in the editorial page, at the front of the book, as so many others do.

If this reaches "It Says Here", I would like to announce that I am writing a booklet, "How to Form a Science Fiction Club", and would like any person who has formed a club of his own, or has attended one, to contact me by mail.

Orville W. Mosher III
1728 Mayfair
Emporia, Kansas

(Well, we'll see if you're right, Mr. Mosher. I'm listing the question on the voting coupon this issue. Our art director will have to be restrained from voting seventeen times, since our following your suggestion would save him work.)

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Readin' and Writhin'

(Continued From Page 77)

freaks are not only the product of mutation—hereditary factors—the author notes; disease and accidents can account for large numbers of cases.) Similarly with "supermen"; the term has been defined in so many mutually-exclusive ways that it's almost meaningless. But however you want to define it, there are no grounds for believing that there's any likelihood of atomic fission resulting in any more of the critters than we've had before. (If you'd call the all-around "genius"—a person who not only has what we'd term a "superior mind", but is endowed with "genius" in many departments of activity, not just one, and whose personality conforms with his potentialities—a "superman", history has recorded such persons. Offhand, I'd include da Vinci, Benjamin Franklin, and Julius Caesar in such a list; they all showed "genius" in many different departments, and all proved capable of taking care of themselves.)

SO FAR AS fiery doom, and anathemas on the "Scientists, who got us into this mess", go, I find this book refreshingly sensible. The author states, "There is no cause for foolish optimism. But the chances are pretty strong that most of the readers

of this book will not be killed or seriously injured in an atomic blow-up. Percentages won't save you—but they seem to be on your side.


"...It's a tough world for the civilian at present. It probably always has been. In olden days, many people would have died of diseases who may now die in a possible atomic bomb attack. That may not sound like progress, but it is—because life, in the meantime, is a good deal better in a lot of ways. Science has still done the world more good than harm."

The matter of secrecy, as del Rey notes, is an unhappy problem, and no "solution" can be entirely satisfactory. In one respect, there is no such thing as an "atomic secret", since the atom and atomic fission is not an invention of man, but a discovery by man of natural processes which he has learned how to employ to (seemingly) advantage. Scientifically speaking, there was sufficient information in the Smythe Report—published openly after Hiroshima—to tell any nation's scientists how to go about making A-Bombs; and that was all they needed, outside of the materials and equipment. What one man can discover, another can discover in the same manner.

But, in another respect, a certain amount of secrecy is vital; politics requires that we keep as much knowledge pertaining to

[Turn Page]

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the refinements of the operation to ourselves, as we can. And one cannot mutter and mumble and dismiss politics as unimportant, or as something which *shouldn't* interfere; politics is important—the forces and pressure which make up what we call “politics” do not make scientific laws, but they can and do determine what shall be done with the material science has uncovered. Whether this *should* interfere with scientific research and work is irrelevant opinion, the facts being that it *does*.

"Also, it's extremely frustrating to realize that the work you are doing, and which is proving such a major difficulty because of some bit of missing information, could probably be finished in a short and simple manner if you had at hand some bit of information gathered elsewhere, but not released.

"...If Fermi's attempts to produce heavier-than-uranium elements had been classified as secret, Lise Meitner and others would not have analyzed his experiments and decided that it was not a building up but a tearing down that went on. It might have been a good many years before the fact of fission would have been discovered.

"Superficially, to many, this may seem good. But the discovery might have been made by someone who would have put it into the hands of the enemy."

Politically-imposed "secrecy", then, can split off and isolate scientific research to the point where no one knows what someone else has, or what he is doing. True, we all have spies, etc.—but if the scientists in countries A and X have been out of contact for years, neither knowing what the other is doing, then there's a strong likelihood of reports from intelligence being meaningless. Either A or X may be out on a new line, incomprehensible without the preliminary groundwork.

Such a situation would make war more, rather than less, probable. since each party would be sure they had a "super-weapon" against which the other had no defense; even a relatively sane and cautious man will often bet on a "sure thing".

This book touches on just about every phase of atomic power we've heard of: how the Piles are constructed and how each type operates; the difference between the Piles for bombs and for civil use; the types of risk involved for those

who work in atomic plants, and safety measures that have been installed; what the bomb has meant to the Army and Navy and an examination of how atomic war is likely to change former military practices, and so on. Abelard Press asks \$2.25 for it, and it's a bargain at that price.

THE BLACK MAGIC OF YESTERDAY

(Continued From Page 112)

of such a mixture would be—nor does he ever expect to know unless someone else tries the experiments and then tells him about it.

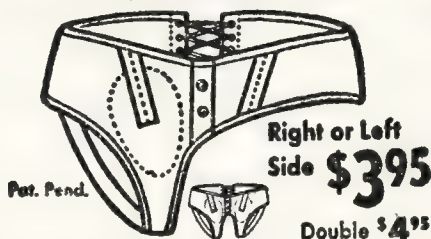
There were many other feats of "black magic" practiced by the pagan priests, all based on fundamental science. There was the use of glass eyes in the statues to produce certain desired effects. Another bit of ingenuity was the practice of drawing figures of the gods on a temple wall, which had previously been coated with naphthol. When flaming torches were played before these walls, the figures appeared to assume weird shapes and to writhe and move about fantastically. A bladder—formed into the shape of a human being and coated with wax—was also exposed to heat with somewhat similar results. And phosphorus was applied to the images of the gods with truly startling results.

This, then was the "secret power"—the knowledge of "hidden spiritual strength"—which charlatans today claim the ancient pagan priests possessed. The pagan priests never possessed any hidden sources of strength and wisdom, knowledge of which was "lost" long ago! The power of the pre-Christian priests rested solely on a smattering of scientific facts, which they exploited for their own enrichment.



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SCIENCE FICTION QUARTERLY

EXTRA-SECRET AGENT

(Continued From Page 95)

changed the subject by admiring Laril's foresight in planting the gas beforehand. The Capellan did not explain.

"Don't feel bad about the Centaurian," advised the Earthman; "we had overlooked him also."

"Why did it steal them?" asked Laril, letting his mind dwell momentarily on the hideous little statuettes from Altair.

Taylor laughed. "As near as we can learn from Proxima Centauri V, he really is fascinated by them. He is a famous collector, who seems a bit peculiar mentally—even for a Centaurian!"

Laril reflected that the Centaurian possessed several admirable qualities. Besides, he himself could well understand how the exotic objects could exert a strange spell. "Then, all is clear now?" he asked.

"Yes, an Altairan representative is taking charge of returning the things. We are quietly deporting all who had a hand in the theft."

"Then it would doubtless look well if I depart at the same time," suggested Laril.

Taylor reluctantly agreed, and televised a call to reserve for Laril a compartment on a spaceship leaving Luna in a few hours. "I hope we work together again sometime," said the Earthman in parting.

Laril returned the compliment, but left as quickly as he could. He was anxious to get his baggage aboard the ship.

I wonder how soon I dare take it out, he thought, walking down the hall of the building.

He sincerely hoped no one had thought to search his things. There would be considerable difficulty should that single statuette be discovered in his possession. Lately, whenever he was distant from the "souvenir" he had appropriated, he felt an inexplicable urge to search for it.

MEDICAL RESEARCH DISCOVERS TREATMENT FOR PIMPLES

Acne, Blackheads, and other externally caused Skin Blemishes

DON'T LET UGLY PIMPLES BLEMISH YOUR PERSONALITY RUIN YOUR CONFIDENCE OR SPOIL YOUR TALENTS!

CAUSES OF PIMPLES AND BLACKHEADS SEEN THROUGH POWERFUL MICROSCOPE



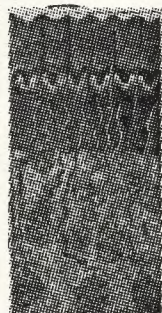
DO YOU feel your skin is holding back your chances for popularity . . . for success? Are you afraid people whom you'd like to know will reject you? Thousands of people who felt the same as you—now have clear attractive complexions. They've regained their poise and confidence. You can benefit from their experience!

SCIENTIFIC RESEARCH REVEALS NEGLECT CAUSE OF MANY SKIN TROUBLES

Skin Specialists and Medical statistics tell us that broken out skin usually occurs from adolescence and can continue on through adulthood. Adolescents often carry these scars throughout their life. Many never get over the "feeling of embarrassment" and are always conscious of their appearance and complexion. Persistent cases of "bad skin" sometimes continue on through adulthood. In this stage of life, the responsibilities of earning a living and meeting people are essential if you are to climb the ladder of success in your job. It is doubly important to give your skin problems immediate care. Physicians state that to neglect your skin may prolong your skin troubles and make it more difficult to clear up. And, there is no better time to get pimples under control than NOW!

Laboratory analysis using special microscopes gives us the scientific facts regarding those unsightly pimples. High-powered lenses show your skin consists of several outer layers. Projecting through this epidermis, are hairs, the ducts of the sweat glands and the tiny tubes of the sebaceous glands which supply the skin with oil to keep it soft and pliable. Skin specialists will tell you that many skin eruptions can often be traced to an over-secretion, of oil from the sebaceous glands. As a result of

this over-secretion, more oil than is normally required by the skin is deposited on the outside of the skin. Unless special care is taken, this excessive oil forms an oily coating which is a catch-all for all foreign matter in the air. When dust, dirt, lint, etc. become embedded into the tiny skin openings and block them up, they can cause the pores to become enlarged and therefore even more susceptible to additional dirt and dust. These enlarged, blocked up pores may form blackheads as soon as they become infected and bring you, the worry, despair, embarrassment and humiliation of pimples, blackheads and other externally caused blemishes.



Illustrated is a microscopic reproduction of a healthy skin:

The sebaceous glands are shown as they project through the many layers of skin. In a normal skin, the openings of the gland tubes are not blocked and permit the oil to flow freely to the outside of the skin.

DOCTORS RECOMMEND THIS TREATMENT

Physicians report two important ways to control this condition: First, they prescribe clearing the pores of clogging matter; and second, inhibit the excessive oiliness of the skin.

To help overcome these two conditions, Scope Products' research make available two scientifically-tested formulas that contain clinically proven ingredients. The first formula contains special cleansing properties not found in ordinary cold creams or skin cleansers. Thoroughly, but gently, it removed all surface scales, dried sebaceous matter, dust, dirt and debris—leaving your skin wonderfully soft, smooth and receptive to proper treatment. The second formula acts to reduce the excessive oiliness produced by the overactive sebaceous glands. Its active ingredients also help prevent the spread of infection by killing bacteria often associated with externally caused pimples, blackheads and blemishes.

COVERS UP UNSIGHTLY BLEMISHES WHILE MEDICATION DOES ITS WORK

To remove the immediate embarrassment of skin blemishes, Scope Medicated Skin Formula helps conceal while it medicates! Unlike many other skin preparations, Scope Formula has a pleasant fragrance! Imagine! The moment you apply the Scope Treatment to your skin you can instantly face the immediate present with greater confidence in your appearance. At the same time, you are sure that the medication is acting to remove externally caused blemishes and helping to prevent new ones. This "cover-up" action gives you peace of mind. No longer need you suffer from the feeling of self-consciousness or inferiority. Make this your first step in the direction of a clear complexion and skin that's lovable to kiss and touch!

SATISFACTION GUARANTEED OR DOUBLE YOUR MONEY BACK

We make this guaranteed offer because so many users of Scope Medicated Skin Formula have written us telling how it helped to clear up their complexion. We want you to try the Scope Double Treatment at our risk. Just a few minutes of your time each day can yield more gratifying results than you ever dreamed possible! If you are not delighted in every way by the improved condition and general appearance of your skin IN JUST 10 DAYS, simply return the unused portion and we will refund not just the price you paid — but **DOUBLE YOUR MONEY BACK!** You have everything to gain . . . and we take all the risk! We want all teen-agers, men and women of all ages to get a fresh, new glowing outlook on life. We want you to be the inviting social personality you might be and to help you reach highest success possible in business. Now you can give yourself new hope and bring back that happy joyous feeling of confidence, poise and popularity!

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Just send your name and address to SCOPE PRODUCTS CO., Dept. DA-3 1 Orchard Street, New York, N. Y. Be sure to print clearly. By return mail we will ship the Scope treatment to you in a plain package. When postman delivers the package, pay only \$1.98 plus postage. Or send \$2.00 now and we pay postage. No matter which way you order, you have a **DOUBLE REFUND GUARANTEE.** Don't delay, send for the Scope Medicated Skin treatment with its special "cover-up" action . . . today! Sorry no Canadian or foreign C.O.D.'s.

DON'T SPREAD INFECTION BY SQUEEZING PIMPLES AND BLACKHEADS



Clinical reports state that many people squeeze out pimples and blackheads with their fingers. This is unsanitary and may lead to the spread of the infection. This abuse may also inflame your skin and leave red welts and ugly looking blotches and bumps. As a result your face may be covered with pimples and blemishes. Soon you'll be sorry you ever squeezed or picked at your skin by using this unscientific method to get rid of skin eruptions.

THE RECKONING

A Report on Your
Votes on Comments

Friends, I'm highly gratified at the number and variety of responses to our February issue. There were flowers and tomatoes tossed at every item, the two most controversial being the Maclean and Sherman pieces. Miss Maclean had to duck more often—but she also received more accolades.

The box score comes out like this:

1. Three Worlds in Shadow (Gibson)	2.00
2. Rogue Princess (de Camp)	2.80
3. Ordeal on Syrtis (Lesser)	3.19
4. Communicado (Maclean)	3.45
5. Intervention (Sherman)	3.79

Each voting coupon, or letter listing preference is counted and my tally-sheet shows the number. Example: there are 7 items this time. A first-place vote gets 1; a second-place 2, and so on down the line. Any story marked "X" (which specifies reader dislike) is given 7 points, and noted in red. The total score for each story is then divided by the number of voters, and the quotient shows how the story came out.

Please let me know your reactions. The coupon below can be cut out without mutilating any story, or department, in the book, and is for your convenience if you have no time or inclination to write a letter.

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★



★

Number these in order of your preference, to the left of numeral; if you thought any of them bad, mark an "X" beside your dislikes.

- 1. The Shining City (Vale)
- 2. The Psychological Story (Blish)
- 3. When in Doubt, Mutatel (Price)
- 4. Extra-Secret Agent (Fyfe)
- 5. Luckiest Man Alive (Morrison)
- 6. We, the People (Moore)
- 7. Black Magic of Yesterday (Nelson)

Do you dislike the practice of an extra blurb for the stories, as on page 13 of this issue?

Who are your nominees for the three best letters in "It Says Here"?

- 1
- 2
- 3

General Comment

.....

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